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GAZETTEER

OF THE

KARNAL DISTRICT.

1883-84.

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PREFACE.

THE period fixed by the Punjab Government for the compilation of the *Gazetteer* of the Province being limited to twelve months, the Editor has not been able to prepare any original matter for the present work; and his duties have been confined to throwing the already existing material into shape, supplementing it as far as possible by contributions obtained from district officers, passing the draft through the press, circulating it for revision, altering it in accordance with the corrections and suggestions of revising officers, and printing and issuing the final edition.

The material available in print for the *Gazetteer* of this district consisted of the Settlement Reports, and a draft *Gazetteer*, compiled between 1870 and 1874 by Mr. F. Cunningham, Barrister-at-Law. Notes on certain points have been supplied by district officers; while the report on the Census of 1881 has been utilised. Of the present volume, Section A of Chap. V (General Administration), and the whole of Chap. VI (Towns), have been for the most part supplied by the Deputy Commissioner; and Section A of Chap. III (Statistics of Population) has been taken from the Census Report. But with these exceptions, the great mass of the text has been taken almost if not quite verbally from Mr. Ibbetson's report on the southern parganahs,* and from the volume of extracts from old Settlement Reports of the Thanesar District. These latter afford very inadequate material for an account of that portion of the district to which they relate.

No better or fuller material, however, was either available or procurable within the time allowed. But when the settlement operations now in progress are finished, a second and more complete edition of this *Gazetteer* will be prepared; and meanwhile the present edition will serve the useful purpose of collecting and publishing in a systematic form, information which had before been scattered, and in part unpublished.

The draft edition of this *Gazetteer* has been revised by Major Roberts and Messrs. Benton and Douie and by the Irrigation Department so far as regards the canals of the district. The Deputy Commissioner is responsible for the spelling of vernacular names, which has been fixed throughout by him in accordance with the prescribed system of transliteration.

The final edition, though compiled by the Editor, has been prepared for and passed through the press by Mr. Stack.

THE EDITOR.

* *Note.*—Mr. Ibbetson's text has very often been modified by the district authorities, especially in details.

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Table No. I, showing LEADING STATISTICS.

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DETAILS.	DISTRICT.	DETAIL OF TAHSILS.		
		Karnál.	Pánipat.	Kaithal.
Total square miles (1881)	2,396	832	458	1,106
Cultivated square miles (1878)	1,062	378	284	400
Culturable square miles (1878)	892	273	81	538
Irrigated square miles (1878) — ...	389	108	197	84
Average square miles under crops (1877 to 1881) ...	914	318	229	367
Annual rainfall in inches (1866 to 1882) ...	28·4	28·4	24·7	19·2
Number of inhabited towns and villages (1881) ...	863	359	166	338
Total population (1881)	622,621	231,094	186,793	204,734
Rural population (1881)	544,293	203,236	161,771	179,286
Urban population (1881)	78,328	27,858	25,022	25,448
Total population per square mile (1881) ...	260	278	408	185
Rural population per square mile (1881) ...	227	245	353	162
Hindus (1881)	453,662	161,577	137,803	154,282
Sikhs (1881)	8,036	2,594	213	5,229
Jains (1881)	4,655	1,129	2,858	668
Musalmáns (1881)	156,183	65,747	45,908	44,528
Average annual Land Revenue (1877 to 1881)* ...	630,101	177,983	306,099	146,019
Average annual gross revenue (1877 to 1881)† ...	760,112	...	...	...

* Fixed, fluctuating, and miscellaneous. † Land, Tribute, Local rates, Excise, and Stamps.

CHAPTER I.

THE DISTRICT.

SECTION A.—DESCRIPTIVE.

Chapter I, A.

Descriptive.

General description.

The Karnál district is the most northern of the three districts of the Dehli division, and lies between north latitude 29°9′ and 30°11′, and east longitude 76°13′ and 77°16′. It consists of a tract of plain country of somewhat irregular shape, lying on the right bank of the Jamná, including a portion of the valley of that river, and stretching away westwards across the Suruswatí and Ghagar into the Eastern Plains of the Panjáb. It may be roughly compared to a square, with its south-western corner cut off as belonging to the Native State of Jínd, and with the addition of a broad projection running up from its north-western corner northwards towards Patiálá. It also includes 45 outlying villages scattered about Patiálá territory, the furthest of which, Budládá, is 101 miles distant from head-quarters. Its average length and breadth are 54 and 50 miles; its greatest dimension measured along the diagonal from Rattan Kheri on the Ghagar to Rákasahrá on the Jamná is 80 miles. It is bounded on the north by the Patiálá State and the Ambálá district, on the east by the river Jamná, which separates it from the Sahárnpur, Muzaffarnagar and Meerut districts of the North-Western Provinces, on the south by the district of Dehli, and on the west by the Rohtak district and the Native States of Jínd and Patiálá. It is divided into three *tahsíls*, of which that of Pánípat includes the southern, that of Karnál the central and north-eastern, and that of Kaithal the western and north-western portions of the district. The Kaithal *tahsíl* forms a sub-division in independent charge of an Extra Assistant Commissioner stationed at Kaithal as his head-quarters.

Some leading statistics regarding the district and the several *tahsíls* into which it is divided are given in Table No. I on the opposite page. The district contains three towns of more than 10,000 souls as follows:—

Pánípat	25,022
Karnál	23,133
Kaithal	14,754

The administrative head-quarters are at Karnál, situated in the eastern edge of the district, 5 miles from the river, and upon the Grand Trunk Road 47 miles from Ambálá and 73 from Delhi. Karnál stands 21st in order of area and 14th in order of population among the 32 districts of the Province, comprising 2·25 per cent.

Chapter I, A. Descriptive.

General description.

of the total area, 3·31 per cent. of the total population, and 3·21 per cent. of the urban population of British territory.

The latitude, longitude and height in feet above the sea of the principal places in the district are shown in the margin.

Town.	N. Latitude.	E. Longitude.	Feet above sea-level.
Karnal ..	29°42′	77° 2′	800
Panipat	29°23′	77° 1′	764
Kaithal .	29°48′	76°26′	760*

* Approximate.

Physical conformation.

The district is everywhere flat, and lies about 780 feet above the sea, the height probably nowhere differing from this figure by more than some 30 feet. The whole formation is alluvial, *kankar* being the nearest approach to stone, and blue micaceous sand being found everywhere, though at varying depths. The distance of the water table from the surface is much affected by the canal and the river. In their vicinity it is seldom greater than 15 feet, and often not more than two or three feet. In the south of Kaithal the depth is as much as 140 feet; on the water shed of the Ghagar and Suruswati and also between the canal and Chautang the depth is from 30 to 35 feet. There is no real clay, the soil varying from stiff loam to pure sand. The stiffest loam is found in the hollows and drainage lines, where the action of the water has washed out the sandy particles: it is locally known as *dákar*, and is differentiated by the clods not crumbling in the hand. The sandiest soil is known as *bhúr or bhúda*; it is found in the riverain tract, chiefly in patches lying in the beds of old river channels; and also occasionally on the water-shed, where it would seem to have been collected by the wind. It includes all soils that do not form clods under the plough. Intermediate soils are classed as *rausli*, and vary in quality between the two extremes. Another common division is into *magra* and *dahr*. The former is the higher land where rain does not lie and the soil is light; the latter the depressions in which the rice is grown, and where the soil is heavy loam.

The *Khádar*.

The tract is divided into two parts by the great backbone of Northern India, which separates the water system of the Indian Ocean from that of the Bay of Bengál. This water-shed runs north and south at a distance of from six to twelve miles from the river, and is almost imperceptible to the eye. It runs close under the city of Karnál and thence follows the line of the most eastern of the new canal Rájbahás (No. IV). To the east of, and generally within a mile or two of the water-shed, lies the bank which marks the western limit of the excursions of the Jamná. All to the east of this bank is known as the Khádar, and is a lowlying riverain tract, with light soil and water close to the surface, and largely in the hands of industrious cultivators. It is bounded to the east by the broad sandy bed in which the river runs; and the Jamná has swept over the whole of it within comparatively recent times. The drop at the bank is often ten or twelve feet; and the land immediately below the bank is usually somewhat lower than that at the river edge. The general slope southward is about one-and-a-half feet per mile. There is little heavy jungle except on the upper portions of the river where the banks are fringed with *jháu*; but date palms and mango groves abound,

Chapter I, A.

Descriptive.

other trees are scattered about profusely, and the luxuriant cultivation and the frequent wells make the Khádar perhaps the prettiest part of the district.

The Bángar.

All west of the Khádar bank is called the Bángar. But it is divided into two parts by a well-marked drop which runs from near Karnál in the north-east to the south-west corner of the district, and is defined almost exactly by the Hánsi road, which runs along its crest, and the Rohtak branch canal which flows below it. This drop and the Khádar bank, already referred to, meet a little above the town of Karnál, and it is the triangular tract that lies between them that is more especially known as the Bángar (proper), in contradistinction to the Nardak or high tract beyond the drop.* It is watered by the Western Jamná Canal almost throughout its area. The soil, where not rendered barren by salts or swamp, is stiff and fertile, and it is in the hands of industrious agricultural castes. The general slope is about one-and-a-half feet per mile southwards, and one foot per mile westwards, the slope decreasing as you go south. Where the Bángar, Nardak and Khádar meet near Karnál, the Nardak drop splits up into several steps which lead imperceptibly from the Nardak to the Khádar, so that the Bángar does not really extend north of Karnál. There is not much timber in the Bángar. Its soil marks a transition between the stiff loam of the Nardak and the light sandy soil of the trans-Ghagar country, Budláda, known as the *Jangal Des.* Mango groves are not uncommon, but other trees are thinly scattered about. As the neighbours say, land is so scarce and valuable that the very ridges between the fields are set up on edge; and the Bángar tract is for the most part a sheet of cultivation, interspersed with great swamps and large barren plains covered with saline efflorescence. In the new settlement the Indrí *parganah* is divided into Khádar, Bángar and Nardak. The Bángar is the tract between the canal and Chautang where well cultivation is more extensive and the soil better than the Nardak beyond the Chautang. In these two tracts, however, the people themselves, though they recognise the difference of the soils, do not distinguish Bángar from Nardak by name.

The Nardak.

To the north and west of the drop, described in the last paragraph, lies the Nardak, another name for the Kurukshetrá, or battle-field of the Pándavás and Kauravás of the Mahábhárat, which lay on this great plain. It consists of a high table-land which runs away with ever-increasing aridity towards the prairies of Hariáná which are locally known as the Bágar. Its limits may be defined by a line drawn from Thanesar to Tik, thence to Sufidon in Jínd, thence to Karnál, and from Karnál round again to Thanesar. To the west of the Nardak is the Kaithal Bángar, including some 90 villages of the Kaithal and Kuthana *parganahs.* The Bángar tract extends as far as the Ghagar. In the extreme south-western corner the canal irrigates its skirts; in the Indrí *parganah* on the immediate edge of the Khádar the country is exactly what the Bángar proper would be were it deprived of canal irrigation; while in the northern portion of the Kaithal *tahsíl,* presently to be described, the Ghagar and its tributary the Suruswati, annually flood the country locally called the

* Bángar is locally used with a purely relative meaning, for higher and more arid land. Thus a village in the Khádar will call a high-lying portion of its area, its Bángar.

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The Nardak.

Naili. To the north of the Naili tract is the Andarwar, or the villages between the influence of the Suruswati floods and the Ghagar. To the north of the Ghagar is the Powadh, a rich country with a light loam soil. But the central and by far the greater portion of the table-land is a high arid tract, with water at great depths, having little more than a quarter of its area cultivated and hardly any of it irrigated, and being largely occupied by cattle-grazing Rájpúts. The general slope of this tract is about two feet in a mile southwards, and the same westwards, the slope decreasing as you go south. The Nardak is conspicuously a grazing country, consisting of large open plains covered with various grasses and separated by dence belts of *dhàk* and other small trees. The large trees are almost entirely of the fig tribe. The uniformity of the grassy glades is broken by local hollows (*dàbar*) fringed by trees, in which water collects and produces a dence growth of coarse water-grasses, and by cultivation, which is confined almost entirely to the drainage lines and other lowlying land. The jungle is in places almost inpenetrable; and in a good season the scenery is exceedingly park-like and pretty, especially when the *dhàk* and *kair* are in flower.

The Ghagar-Suruswati basins.

The Nardak between Karnál and Kaithal is unbroken save by the wholly insignificant Naí Nadí, and the petty stream of the Chautang. But some seven miles north of Kaithal the traveller enters upon the valley of the Suruswati, beyond which again at a distance of some 8 miles lies the Ghagar. These two streams meet just beyond the border of the district. Both are of discontinuous flow; but the floods of the rainy season are of considerable volume, and are, at least in the case of the Suruswati, forced over the banks of the stream, itself often too small to wholly contain them, by rude dams constructed by the villagers. Thus during the rains a broad strip of country on the left bank of the Suruswatí, and on the right the whole country up to the Ghagar watershed, which is roughly defined by a line drawn from Agandh in Chilia to Isahak in Pehawa, are periodically inundated; while near their junction the country is often under water for days together, and large *jhìls* are permanent features. The tract thus flooded is known as the Nelí; the soil is for the most part stiff, and yields fine crops of rice, gram, and barley, and wheeled traffic is impossible. The Suruswatí valley is well wooded and highly cultivated; but for a few miles north of the Suruswatí, an excess of moisture has often covered the country with coarse water-grasses of little value save as pasture for buffaloes. Beyond this, on the watershed, the soil is poor, but the cultivation is exceedingly thrifty and good. Further on, towards the Ghagar the jungle again becomes thick, but is quite unlike the Suruswatí jungle and consists of *kair kìkar*, *dhàk*, and thorny scrub.

The Jamná.

The Jamná meets the district at Chaugánwa, and thence forms its eastern boundary for 73 miles till it passes on to the Dehli district. Its bed varies from half-a-mile to a mile in width, of which the cold weather stream only occupies a few hundred yards. The bed is of course sandy throughout, and the subsiding floods leave sand banks which change annually. The banks vary immensely in character. Where the river has at one time swept over the spot where the bank now stands the edge is low and sandy; where, on the other hand, the

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Descriptive.

The Jamná.

stream has gone round the piece of land which now forms the bank, the latter is perpendicular and often 20 to 30 feet high. In the southern portion of its course the banks are for the most part high and well defined. Generally speaking, the shelving banks are cultivated; they yield, however, a minimum of produce. The higher banks are fringed with dense *jháu* jungle on the upper portion of the stream. But from Pánípat downwards they are cultivated up to the very edge; and their fall often means ruin to individual landowners. The Jamná is by no means so capricious in its course as are the Panjáb rivers. The present tendency of the river is very slightly to the eastwards; and it has within the last few years, changed its channel just below Karnál, so that six villages formerly lying to the east of it are now included in the Karnál district. Its present action is almost wholly for bad. Its floods deposit sand for the most part; and the thin skim of loam that sometimes covers it requires a long course of self-sown *jháu* before it is worth cultivating.

Minor drainage lines.

The Khádar, especially in the northern part, is much cut up by old river channels (*khálá*), and when the Jamná is in flood, the water passes down these channels into the lower land and does much harm by flooding the fields. The largest of these channels runs almost directly under the Khádar bank, and is known as the Búrhí Nadí, or Gandá Nálá. It receives the drainage of the Bángar east of the watershed, and often swamps the country round. In the Bángar the principal drainage is that running under the Nardak drop and occupied by the main canal, and, in its lower course, by the Rohtak branch. Minor local drainages intersect the area between this and the watershed, and empty into this main drainage; but they are very broad and shallow, and are often only perceptible by their effect upon the cultivation. In the Nardak there are two main streams, the Chautang and the Naí Nadí (or narrow creek). The Chautang* cuts off a small corner from the north-west of the tract; and passing on to the south-west, is taken up by the Hánsí Canal, which occupies its lower bed all the way to Hánsí and Hissár. In some parts there is a good deal of cultivation on its banks; but they are for the most parts fringed by dense jungle, in which a leopard was shot in 1871. Its bed is, like the surrounding country, of stiff loam; its depth 6 feet at the most. For a considerable part of its upper course the channel is so straight and the banks so clean, that it has been thought to have been artificially made and to have formed part of the old Imperial canal system. The Naí Nadí is a spill from the Chautang, which it leaves above Taráorí in *parganah* Indrí, and, flowing in a south-westerly direction through the middle of the Nardak, joins the Rohtak Canal in the extreme south-west corner of the district, or rather used to do so until the Hánsí Canal was taken across it. Both these streams flow only after heavy rain; and in both the watershed is immediately to the west of the channel. The floods of both are utilised for cultivation. Small local drainages intersect the catch basins, and may be traced by the cultivation which follows their course.

* This stream is identified by St. Martin with the ancient Drishádvatí. Manu makes the Kurkshetrá lie outside the Suruswatí and Drishádvatí Doáb, while the Mahábhárat places it between the two rivers. The Chautang is very commonly identified with the Ghagar; and by others including General Cunningham, with the Rákshí.

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Descriptive.

Streams of the Ghagar basin.

Between the Chautang and Síwan there are no drainages of any importance. But in the north-west corner of the district, where it projects in the shape of a narrow neck between Patiálá territory and the district of Ambálá, several streams cross it. Taking these in their order from the north the first is the Patiálá Nádi, so called from the fact of its flowing under the walls of the capital city of Patiálá. This stream only passes through the extreme corner of the district and joins the Ghagar a few miles beyond the border. The Ghagar is the largest and most important of these streams. It enters the district at the village of Arnauli, where it is locally called the Untsarwali, and, running westwards, is joined by several natural lines of drainage on its passage. Its bed is broken into numerous channels, of which the beds are deep and very clearly marked—a fact which renders its diversion a matter of some surprise. On the confines of the district, the river turns south, skirts the border for some distance, and then strikes off into Patiálá. There is a ferry over the Ghagar at Titáná in the extreme north of the district, but boats are required only for a few months in the year; for after the close of the rains the river gradually dies away, till at the beginning of the summer it becomes completely dry, occasional swamps and pools of water alone remaining.

The sacred Sarsutí (Suruswatí) enters the district some 10 miles further south and runs nearly due west across the district into Patiálá territory, where it soon joins the Ghagar. It is a more considerable river within the confines of Karnál than in the main part of its course through the Ambálá district, being swelled by its junction with the Márkandá, a short distance above the town of Pehowá. The bed of the river is deep and well defined. There is a boat ferry over the Suruswatí at Sothá, but the river is so full as to require a boat for a few months only in the year, and, when at its height, is too rapid to allow of crossing except by an inflated "*massak*."

At Polar Magra are the remains of an old bridge. It must have been at this point that Timúr crossed the Suruswatí on his way to Dehli. According to Elliot he crossed the Ghagar at Kotila or Kubila, a mistake for Gula, where there is an old bridge the building of which is ascribed to Todar Mal. Throughout the northern portion of the district, in various directions, there are traces of ancient canal cuts from the Ghagar and the Suruswatí. Large quantities of water are at present wasted, which by a restoration of these cuts might be turned to most profitable account both for the cultivators and for the Government.

Jhils, and swamps.

The drainage of the central portion of the district finds its way into the Chautang. To the east of this the country falls towards the Jamná, and the Western Jamná Canal and its minor branches, cutting the lines of drainage at right angles, cause extensive swamping. (See also in appendix). Thus the canals are fringed by an almost continuous series of *jhils* of large extent, many of which retain water throughout the year. They are not of sufficient importance to be dignified by the name of lakes, but are of quite sufficient size very seriously to diminish the capabilities of the villages on whose lands they trench. The land on the edges is extensively cultivated with rice, and, when the water

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Jhils and swamps.

neither rises so high as to drown the young plant, nor falls so low as to leave it to dry up, heavy crops are obtained. So again, near the confluence of the Ghagar and Suruswatí, extensive swamps are formed which cover a large area. It is contemplated to drain some of these, and the drainage cuts are now in hand.

The Deputy Commissioner gives a list of the largest *jhils* as follows:—

1.—Parsan *jhìl* near the town of Kunjpurá. 5 to 6 miles long, and some 200 yards broad. This is five feet deep in most places.

2.—Dáhá-Bázídá *jhìl* near Karnál city, some 3 miles in the direction towards Dehli. This is merely a morass, but in the rains it becomes 2½ miles long and some 400 yards in breadth. When the water clears off, the soil is utilized in some measure for cultivation.

3.—Nohrá *jhìl* 3 miles to the north-west of Pánípat, about two miles long and one mile broad. In the rains this is 6 feet deep, and throughout the entire year the ground is marshy.

4.—Sherá *jhìl* 3 miles west of Nohrá, one mile long, ½ mile broad, and 2 feet deep.

5.—Báholi, close by Sherá, ¼ of a mile long, ½ a mile wide, and about 7 feet deep. The ground here is always marshy. A portion of the soil is occasionally used by cultivators.

6.—The Begampur *jhìl*
7.—The Dadlánd *jhìl*
8.—The Mandí *jhìl*
} are on the canal, as are the previous five.

9.—Main *jhìl* between Kaithal and Chíká.

10.—Lallí *jhìl* close to the above, covered with water for 8 months.

11.—Between Kaithal and Chíká, some 14 miles of the country is converted into a swamp in the rains.

12.—The Káchwá *jhìl*, of no great size, near Karnál.

13.—Singoha in Karnál *paryanah*, close to the canal.

14.—The Amí lake, a small sheet of water.

15.—Chaugauná, a morass formed by the escape of the water of the Jamná in the extreme north-eastern portion of the district.

The Western Jamná Canal.

The Western Jamná Canal * enters this district from Ambálá about 25 miles north-east of Karnál. It flows through to the Khádar low lands up to a point 4 miles below Karnál, where the Grand Trunk Road crosses it by an old Mughal (Bádsháhí) bridge, and the canal itself enters the Bángar. From this point it holds a south-west course for some 18 miles till, near the village of Rer, the Hánsí branch strikes off westwards *viâ* Safídon, and, occupying the bed of the lower Chautang, flows on to Hánsí and Hissár. From Rer the Dehli Branch runs south to Dehli. About ten miles below Rer, another branch strikes off south westwards towards Rohtak, and a few miles beyond this, just upon the confines of the district, a third branch goes to

* The history of this canal is given at length in the Provincial volume of the Gazetteer series. See also Appendix to the present work.

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The Western Jamná Canal.

Butáná. All of these branches are used for irrigation in the district, and channels from one or another of them penetrate to all parts of the tract described as the lower Bángar. It would appear that the canal was first taken to Hánsí by Fíroz Sháh in 1355 A. D., and carried on to Hissár next year; and that he took *sharb*, or 10 per cent. on the yield of the irrigation as water-rate. But it very quickly ceased to run as a canal; for Taimúr, in 1398, must have crossed its channel between Pánípat and Kaithal; and his very minute itinerary makes no mention of it; while Bábar, 200 years later, expressly stated that there were no canals west of the Jamná. In Akbár's time Sháhábuldín 'Ahmad Khán, Governor of Dehli, repaired it. In 1648 Sháh Jaháu again set it in order, and carried it on to Dehli for his Lál Qilah. In 1739 Nádir Sháh found it in full flow; but it must have ceased to run almost immediately after this, in the terrible times that followed his invasion; and when we took the country in 1805 it had long silted up almost entirely.

In 1815 its restoration was begun; and the Dehli branch was opened in 1820, since which date its irrigation has steadily extended. An account of the growth of irrigation and of the attendant evils is given in the Appendix while the history of the canal as a whole is fully described in the Provincial volume of the Gazetteer. The effect of the canal for good and evil upon the tract which it traverses has been great beyond description. While it has brought prosperity to the people as a whole, and has saved them from the horrors of famine which will presently be described, it has partly by its faulty alignment, but perhaps even more by placing within their reach water which they had not the wisdom or the knowledge to use sparingly, brought ruin to too many. The description given in the Appendix will show how terrible that ruin has been. In 1867 it was decided to realign the canal and its distributaries; but for various reasons the scheme hung fire, and even now (1883) the new line is not complete, though a portion of it is running, and the system of distributaries has been to a great extent remodelled.

Rain-fall, temperature, and climate.

The average rain-fall at Karnál is 28 inches, and at Pánípat is 23½ inches. The fall rapidly decreases as we go southwards, and still more rapidly in a north-westerly direction towards the Kaithal highlands. The average Nardak rain-fall is certainly not more than 18 inches. The Khádar receives the most plentiful and most frequent rain, many local showers following the course of the river. Table No. III shows in tenths of an inch the total rain-fall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1882-83. The fall at head-quarters for the four preceding years is shown in the margin. The distribution of the rain-fall throughout the year is shown in Tables Nos. IIIA and IIIB, and in more detail in the figures inserted below; while the average temperatures for each month from 1870 to 1873 are shown below in degrees Fahrenheit.

Year.	Tenths of an inch.
1862-63 ..	352
1863-64 ..	489
1864-65 ..	251
1865-66 ..	274

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Descriptive.

Rain-fall, temperature, and climate.

Average of the thermometer (Fahrenheit) for the year 1870-73, recorded in the west verandah of the dispensary at Karnàl.

Month.	At Sunrise.		At Noon.	
	Maximum.	Minimum.	Maximum.	Minimum.
January ...	54	42	72	61
February ...	64	50	77	65
March ...	71	58	83	72
April ...	80	69	99	89
May ...	86	70	100	81
June ...	91	78	104	89
July ...	85	77	102	87
August ...	86	62	97	91
September ...	84	75	96	89
October ...	76	53	96	77
November ...	61	45	73	70
December ...	53	41	74	63

Rain-fall at Karnál, in inches.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total.
1862-63 ...	0·1	...	0·7	16·0	3·8	11·4	0·2	0·1	...	1·9	...	1·0	35·2
1863-64 ...	0·8	...	7·4	23·8	10·1	2·6	2·5	0·2	0·2	0·2	0·9	0·2	48·9
1864-65 ...	0·9	1·0	0·3	5·4	8·6	2·4	...	...	0·1	0·7	1·2	4·5	25·1
1865-66 ...	0·5	0·4	1·6	4·7	11·0	4·6	...	...	1·6	2·6	0·4	...	27·4
1866-67 ...	0·2	...	3·2	6·9	4·7	0·2	0·9	...	...	0·3	0·2	0·5	17·1
1867-68 ...	0·6	0·9	2·4	7·9	13·1	2·8	...	...	0·6	1·8	1·9	1·0	33·0
1868-69 ...	0·7	0·1	1·1	4·6	0·1	1·3	...	...	...	3·1	1·1	4·2	16·3
1869-70 ...	...	...	...	6·9	2·1	5·7	0·6	...	...	...	0·5	3·2	19·0
1870-71 ...	0·7	0·6	8·2	5·1	6·8	5·0	...	...	...	1·1	4·6	...	32·1
1871-72 ...	0·4	1·9	9·1	10·1	3·8	1·4	...	...	0·9	4·5	0·1	0·9	33·1
1872-73 ...	0·2	0·6	8·1	12·7	7·3	2·1	0·1	...	0·9	0·6	0·1	0·3	33·0
1873-74 ...	...	3·6	1·3	20·7	7·2	6·1	0·2	...	0·5	0·5	0·4	1·8	42·3
1874-75 ...	...	1·1	7·6	18·7	3·4	7·1	...	...	0·2	0·3	4·7	...	43·1
Average ...	0·4	0·8	3·9	11·0	6·3	4·1	0·3	...	0·4	1·5	1·2	1·5	31·2

Disease.

Tables Nos. XI, XIA, XIB and XLIV give annual and monthly statistics of births and deaths for the district and for its towns during the last five years; while the birth and death rates since 1868, so far as available, will be found in Chapter III, A. for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XII shows the number of insane, blind, deaf-mutes and lepers as ascertained at the Census of 1881; while Table No. XXXVIII shows the working of the dispensaries since 1877. The Civil Surgeon (Dr. Cookson) thus discusses the disease and sanitation of the district:—

"Malarial fevers, dysentery and enlargement of the spleen are the most prevalent diseases. Stone in the bladder is not uncommon. Ophthalmia, syphilis and itch are very common in the towns. Scurvy, leprosy and elephantiasis are very rare. Guinea worm and tape worm occasional. In the winter months there is much pleurisy; pneumonia and bronchitis are also prevalent at that season. Asthma is very common, particularly among tradesmen, as weavers and silver-smiths suffer

Chapter I, B.

Geology, Fauna and Flora.

Disease.

much. The malarial fevers are the worst in those parts of the district where rice cultivation is carried on, and where there are extensive marshes; thus, the dwellers near the chain of swamps caused by the Western Jamná Canal, and the inhabitants of the tract every year flooded by the Suruswatí, are the greatest sufferers. Something has been done towards improving the large towns, and there is a perceptible fall in the death-rate. In the rest of the district, with the exception of a few dams for retaining drinking water for cattle, I have not seen any works for the improvement of their land done by the owners; and those works which in civilized countries have been done by successive generations of occupiers for the improvement in value and healthiness of their holdings all remain to be done. Enlargement of the spleen is, when excessive, usually accompanied by sterility. I apprehend that there is some reason to believe that immunity from malarious influences has a tendency to be hereditary, and as those who suffer the least are likely to have the largest families, an explanation is obtained of the fact that dwellers in swamps after several generations get to an average standard of health little below those living on higher lands."

This may be quite true, but the dwellers in these swamps have a miserable physique, and it is probably, only due to the broadness of their marriage customs, which favour the introduction of new blood, that they continue to exist.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

Geology.

Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Panjáb in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts. But a sketch of the geology of the Province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published *in extenso* in the Provincial volume of the Gazetteer series, and also as a separate pamphlet.

Mineral products.

The only mineral products are *kankar* and sal ammoniac; the former is plentifully found in most parts of the district, generally in the nodular form, but occasionally compacted into blocks. Sal ammoniac is made only in the Kaithal *tahsíl*; and the following account of its manufacture is taken for the most part from Mr. Baden-Powell's *Panjáb Products*.

Sal ammoniac.

Sal ammoniac or *nausádar* is, and has been for ages, manufactured by the *kumhárs* or potters of the Kaithal and Gúla *iláqas* of Karnál. The villages in which the industry is carried on are as follows:—Manás, Gumthala, Karrah, Siyáná Saiyadán, Bárná and Bundrána. About 2,300, maunds (84 tons) valued at Rs. 34,500 are produced annually. It is sold by the potters at 8 annas per maund to the Mahájans, who export it to Bhiwáni, Dehli, Farrúkhábád, Mirzápur in the N. W. Provinces, and to Firozpur and Amritsar in the Panjáb, and who also sell it on an average at Rs. 15 per maund.

The salt is procured by submitting refuse matter to sublimation in closed vessels, in the manner described below, which is similar to

Sal ammoniac.

the Egyptian method. The process is as follows:—From 15 to 20,000 bricks, made of the dirty clay or mire to be found in certain ponds, are put all round the outside of each brick kiln, which is then heated. When the said bricks are burnt, there exudes and adheres to them the substance from which *nausádar* is made; this matter is produced by the heat of the kiln in the hot weather in three days, in the cold weather in six; in the rains no *nausádar* is made. On the bricks producing this substance, which is of a grayish colour, and resembles the bark that grows on trees, they (the bricks) are removed from the kilns, and, when cool, this crust is removed with an iron scraper or other such instrument. The substance which is thus produced, is of two sorts; the first kind, which is most abundantly produced, and is inferior, is designated the *mitti khám* of *nausádar*, and the yield per kiln containing 15 to 20,000 bricks is about 20 or 30 maunds; it sells at 8 annas per maund; the superior kind, which assumes the appearance of the bark of trees, is called *pápri* and the yield of it per kiln containing 15 to 20,000 bricks is not more than 1 or 2 maunds; it is sold at the rate of Rs. 2 or 2½ per maund. The Mahájans who deal in *nausádar* buy both the sorts above described; but each sort requires special treatment to fit it for the market. The *khám mitti* is first passed through a sieve, and then dissolved in water and allowed to crystallize. This solution is repeated four times to clear away all impurities. When this has been accomplished, the pure substance that remains is boiled for nine hours; by this time the liquid has evaporated, and the resulting salt has the appearance of raw sugar. The *pápri* is next taken and pounded finally, after which it is mixed with the first preparation, and the whole is put into a large glass vessel made expressly for the purpose. This vessel is globular, or rather pear-shaped, and has a neck 2½ feet long and 9 inches round, which is closed at the mouth, or, more properly speaking, has no mouth.

The composition to be treated is inserted into this vessel by breaking a hole in the body of the vessel, just at the lower end of the neck. This hole is eventually closed by placing a piece of glass over it. The whole vessel (which is thin black coloured glass) is smeared over with seven successive coatings of clay. The whole is then placed in a large earthen pan filled with *nausádar* refuse to keep it firm; the neck of the vessel is further enveloped in a glass cover and plastered with fourteen different coatings of clay to exclude all air, and the whole concern is then placed over a furnace kept lighted for three days and three nights, the cover being removed once every twelve hours in order to insert fresh *nausádar* in the form of raw sugar, to supply the place of what has been sublimed. After three days and three nights the vessel is taken off the furnace, and when cool, the neck of it is broken off, and the rest of the vessel becomes calcined. Ten or twelve seers, according to the size of the neck of the vessel containing the *nausádar*, is then obtained therefrom, of a substance which is designated *phálí*. This *phálí* is produced by the sublimation of the salt from the body of the vessel and its condensation in the hollow neck. There are two kinds of *phálí*; the superior kind is that produced after the *nausádar* had been on the

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Sal ammoniac.

fire for only two days and two nights, in which case the neck is only partially filled with the substance, and the yeild is but 5 or 6 seers, and sold at the rate of Rs. 16 per maund; the inferior kind is where the *nausàdar* had been on the fire three days and three nights, and the neck of the vessel is completely filled with *phàli* when it yields 10 or 12 seers, and the salt is sold at Rs. 13 per maund. That portion of the sublimed *nausàdar* which is formed in the mouth and not in the neck of the vessel, is distinctively called *phùl*, and not *phàli*; it is used in the preparation of *surmà*, and is esteemed of great value, selling at Rs. 40 per maund. Each furnace is ordinarily of a size to heat at once seven of these large glass vessels containing *nausàdar*. *Nausàdar* is used medicinally, and as a freezing mixture with nitre and water; also, in the arts, in tinning and soldering metals and in the operation of forging the compound iron used for making gun barrels by native smiths.

Wild animals; sport.

The dense jungles in the northern parts, and the presence of the canal with its attendant *jhìls* towards the south, make Karnál an unusually good sporting district. Throughout the jungles of the Kaithal high-lands and bordering on the Jínd territory, black buck, *nìlgai* and *chikàra* abound. The first, in fact, is common throughout the district, frequenting the cultivated parts while the crops are sufficiently young to tempt it there, and retreating to the thickets during the interval of seed time and harvest. The *nìlgai* and *chikàra*, on the other hand, are only found in the densest jungles, notably on the banks of the Chautang, never appearing in the lower and cultivated lands. The jungles of the Indrí *parganah* hold hog-deer; and pigs abound wherever there are *jhìls* for them to root in. Grey partridges swarm throughout the jungles, and, in smaller number, in the cultivation, though it is a peculiar fact that they are never found in any Khádar village the area of which is subject to inundation by the river. Black partridges are occasionally found on the banks of the canal and its distributing channels, but they would appear to be dying out here, as in all parts of the Panjáb. Jerdon mentions a bag of 75 brace made by one gun near Karnál; now-a-days, one seldom flushes more than 9 or 10 in a day's shooting. They are still numerous, however, on the banks of the Ghagar. Hares are general but not numerous; they seem to affect the *karìr* jungle by preference, and are most frequent on the slope from the Nardak to the lower Bángar. Peafowl abound alike in the cultivated and in the jungle villages, and the blue rock pigeon is everywhere extremely common. Bush quail are scattered sparsely over the district, and rain quail abound in the *bàjrà* fields after the crop has been cut: the large grey quail comes, as usual, with the ripening wheat, but the vast area under wheat crops, due to the presence of canal irrigation, diminishes their apparent numbers. But it is in waterfowl that the district stands conspicuous. As soon as the rice crops appear above the water, every *jhìl* is crowded with geese and ducks, whose constant quacking, the villagers say, at first renders sleep next to impossible, and the fowl very seriously diminish the out-turn of rice. The sealing-wax bill, pintail, mallard, pinkhead, shoveller, teal, and goose teal are the common ducks. The grey goose is to be found in hundreds on the larger marshes, and the black barred goose

is to be seen on the river. Full and jack snipe abound in the old rice fields, and 4 or 5 painted snipe are shot yearly; while pelicans, ibises, cranes of many kinds, herons, coots, bitterns, and many sorts of waders cover the *jhìlls*, the *sáras* and *kùnj* being particularly numerous.

The excellency of the shooting lies in its diversity; you may shoot deer at dawn, partridge and hare in the early morning, duck and snipe during the hotter hours, and pick up a peacock on his way to roost for the night as evening calls you home. Perhaps such enormous bags are not to be made here as in some other districts. But you can hardly go anywhere without finding game moderately plentiful at your tent-door, and often in great variety.

In old times lions and tigers were not uncommon in the tract. The Nardak was a favourite spot for the old Emperors to hunt lions in; and as late as 1827, Mr. Archer says that lions were sometimes seen within 20 miles of Karnál; while tigers were exceedingly numerous in its immediate vicinity, one having carried off a *faqír* at the Imperial bridge where the Grand Trunk Road crosses the old canal, only a few days before his arrival. He describes Karnál as "situated in a large plain but recently recovered from the tigers;" and Thornton, writing in 1834, says that "a few years ago the jungles were infested by lions, which are now rarely met with except further to the west," and gives several authorities in support of his statement. At present leopards are only occasionally found in the *jhàu* jungles along the river, or in the Nardak scrub. Wolves are common all over the tract, especially in the Nardak, where goats and sheep abound. Rewards for their destruction of the average amount of Rs. 450 have been paid for the last 15 years, rising as high as Rs. 1,270 in one year. The reward is Rs. 5 per head. Jackals abound, and do an immensity of damage to the crops, especially to maize, which can hardly be grown in some parts, as the jackals "don't leave even the bones." Wild pigs are common, chiefly on the river edge and along the Nardak drainages, and they too do great harm to the crops. The Indian antelope abounds all over the district, and the ravine deer and *nìlgai* are found in the high-lands, but are not very common; while the hog-deer is not infrequent in the swampy parts and along the river. Hares are universally distributed. The means adopted to protect the crops from wild animals are detailed under the head of agriculture in Chapter IV. But of all animals the common red monkeys which swarm all along the canal are the most destructive, doing almost as much mischief in the houses as in the fields; and there is no way of keeping off these sacred pests.

The swamps which abound in the canal tract swarm with grey geese, ducks, snipe and waders of all sorts in the cold season; and the yield of the rice crop is seriously diminished by their ravages. *Chirìmàrs* or bird-catchers from the east fix long low nets across the swamps at night, and, frightening the ducks into them, net immense numbers which they sell at Ambálá and Simla. In very wet years pelicans are not uncommon; and in the cold weather the *sàras* and

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kùlan cranes abound in the cultivated parts. Grey partridges and quail are common almost everywhere, and black partridges are found in small numbers wherever there is water. The small sand grouse is found on the high-land fallows, and peafowl and several sorts of pigeons and plover abound.

Saurians and reptiles.

Crocodiles, all of the blunt nose or true crocodile genus, abound in the river and along the canal and its attendant swamps. They frequently seize and kill young cattle; but no really authenticated case of their having attacked a man seems to be discoverable, though in most villages they tell you that this has actually happened in some other village. The poisonous snakes are the *karait*, which is very common indeed, the cobra (*naja tripudians*) and the Russell's viper, which are less so, and the *echis carinata* which is not often seen. No rewards are given for the destruction of snakes in this district; but the stud department paid for the destruction of 1,225 snakes in and about the stud land in 1875 and 1876.

Fish.

Fish abound in the Jamná, in the swamps along the canal in most of the village ponds. They are caught by *Jhínwars* and by a few Meos, and are largely eaten by the Musalmáns of the cities, and by lower castes in the villages. The principal net used is a circular casting net weighted with iron at the edges, and with an iron ring in the middle through which a rope passes. This rope is tied to the end of numerous strings, which when pulled through the ring, draw the edges of the net in towards the centre, and thus enclose the fish over which the net has been cast. There are three sizes—*antì jàl*, *batì jál*, and *jàli*. The seine or *mahà jàl* is used in still water, often in connection with stake nets (*patti kunjà*). *Ghai* is the name of a large seine used in very deep water. In running water a conical bag net (*handal*) with very fine meshes is used for small fry. In the village ponds the fish are caught by hand groping, or with a conical basket open at both ends (*thapà khaunchà*), which is suddenly plunged to the bottom with its big end downwards, and any fish that splashes is taken out through the small end. The following table of the principal fish used for food is taken from Mr. Ibbetson's report. He writes:—

"There are many other varieties which are either very scarce or not eatable. I have unfortunately not been able to obtain Günther's catalogue, and have only had Beavan's hand-book to work with, the descriptions in which are exceedingly meagre, and I am not always certain about the species. Moreover, several allied species often go by the same native name, in which case I have taken that which appeared to be the most common. The letters in the last column of the table have the following meaning:—

R. Found in the River.
J. Found in swamps (*jhils*) or ponds.
C. Common.
S. More or less scarce.

Table of the principal fishes eaten in the Tract.

No.	Native name.	Scientific name.	Reference to Beavan's Handbook.	Habitat and scarceness.	
1	Báns ...	Rhynchobdella aculeata ...	179	J	C
2	Bachwá ...	Eutropiichthys vacha ...	131	R	C
3	Bhágan ...	Crossochilus reba ...	70	R	S
4	Bherá ...	Barbus chrysopterus ...	57	J	C
5	Boali ...	Wallago attu ...	128	J	C
6	Bulálá ...	Bola goha ...	94	R	S
7	Chilwá ...	Chela gora ...	99	R	C
8	Dahí } ...	Rasbora elanga ...	81	J	C
9	Dahwai }				
10	Daulá ...	Ophiocephalus gachua ...	176	J	C
11	Durri (Durhi) ...	Pscudeutropins mitchelli ...	132	J	C
12	Garehí ...	Ophiocephalus gachua ...	176	J	C
13	Gulábi ...	Bola goha ...	94	R	S
14	Gúnch (Gonjá) ...	Bagarius yarellii ...	145	R	C
15	Hanwari ...	Mugil corsula ...	175	R	S
16	Hilsa ...	Engraulis telara ...	116	R	S
17	{ Kág } ...	Belone cancila ...	153	J	S
	{ Kawwa }				
18	Kálbáns ...	Labeo calbasu ...	62	R J	C
19	Khágar ...	Macrones lamarrii ...	137	R J	C
20	Louchi ...	Wallago attu ...	128	J	C
21	Mahásír ...	Barbus mosal ...	41	R	S
22	{ Mungri } ...	Clarias magur ...	124	J	S
	{ Mangari }				
23	Moh ...	Notopterus kapirat ...	122	R	S
24	Pabtá ...	Callichrous bimaculatus ...	129	R J	C
25	Palwá ...	,, egertonii (Sp. ?) ...	131	R J	C
26	Parna ...	Wallago attu ...	128	J	C
27	Rehu ...	Labeo rohita ...	63	R J	C
28	Sáwal bará ...	Ophiocephalus marulius ...	177	J	C
29	,, chhotá ...	,, striatus ..	177	J	C
30	Singhárá ...	Macrones lamarrii ...	137	R J	C
31	Singi ...	Saccobranchus fossilis ...	126	J	C
32	Suni ...	Crossochilus reba ...	70	R	S
33	Thelá ...	Catla buchanani ...	80	R J	C
34	Tíngra Tangar ...	Macrones lamarrii ...	137	R J	C
35	Tíngra chhotá ...	Macrones tengara ...	137	R J	C
36	Urni ...	Mugil corsula ...	175	R	S

Trees and shrubs.

The table on the next page includes the commoner of the trees and shrubs, and such herbs as call for notice. This also is taken from Mr. Ibbetson, who says :—

"For the botanical names I have followed Brandis. But as synonyms, both botanical and vernacular, are numerous, I give the references opposite each tree to the places where full information will be found. B. refers to Brandis' *Forest Flora*, S. to Stewart's *Panjáb Plants*, and PP. to Baden-Powell's *Panjáb Products*. I mention below the principal uses to which the villagers of the tract put each tree; but many other uses are mentioned by the authorities I quote. I omit officinal uses, which are simply innumerable."

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Trees and shrubs.

No.	Vernacular name.	Botanical name.	References.
1	Ak ...	Calotropis procera ...	B 331 S 144
2	Amb ...	Mangifera Indica ...	B 125 P P 964, 1187, 1968 S 45
3	Arni ...	Clerodondron phlomoides	B 363.
4	Bakáin ...	Melia azedarach ...	B 68 P P 1165, 1970 S 33
5	Bar ...	Ficus bengalensis ...	B 412 P P 1486, 1930 S 213.
6	Dhák ...	Butea frondosa ...	B 142 P P 938, 1209, 1587, 1674, 1767, 1790 S 59
7	Farásh ...	Tamarix Articulata ...	B 22 P P 1128, 2081 S 92
8	Gúlar ...	Ficus glomerata ...	B 422 P P 1487, 1929 S 212
9	Híngo ...	Balanites roxburghii ...	B 59 P P 1840 S 44.
10	Híus ...	Capparis sepiaria ...	B 15 S 16
11	Jál ...	Salvadora aleoides ...	B 316 P P 2061 S 175.
12	Jámun & Jamoá	Engenia operculata and jambolana ...	B 233 f P P 2075 S 94
13	Jánd ...	Prosopis spicigera ...	B 169 P P 922, 1248, 1580, 1723, 2010 S 74
14	Jawása ...	Alhagi maurorum ...	B 144 P P 1202 S 57
15	Jháú ...	Tamarix dioica ...	B 21 P P 1126, 1127, 2080 S 91
16	Jhárberi ...	Zizyphus nummularia ...	B 88 P P 1178, 2103, S 43
17	Kaindu ...	Diospyros montana ...	B 296 S 137
18	Kair ...	Capparis aphylla ...	B 14 P P 978, 1120, 1865, S 15
19	Kandai (Chipat)	Solanum xanthocarpum	P P 1373 S 161.
20	Kandai (Khari) or Satyanási ...	Argemone mexicana ...	P P 1090 S 9
21	Khajur ...	Phœnix sylvestris ...	B 554 P P 950 1796, 1797, 1993, S 243 ff
22	Kikar ...	Acacia arabica ...	B 180 P P 1241, 1567, 1717, 1811 S 50
23	Nágphan ...	Opuntia dillenii ...	B 245 P P p 194 S 101
24	Ním ...	Melia Indica ...	B 67 P P 1166, 1839 S 22
25	Nímbar ...	Acacia leucophlœa ...	B 184 P P 1819, S 53
26	Piázi ...	Asphodelus fistulosus ...	S 234 P P 1520
27	Pilkhan ...	Ficus infectoria ...	B 414 S 214
28	Pípal ...	Ficus religiosa ...	B 415 P P 1485 S 213
29	Rus ...	Echinops (?) ...	
30	Satráwal ...		
31	Sonjna ...	Moringa pterygosperma	B 129 P P 1173, 1584, 1643 S 19
32	Shisham ...	Dalbergia sissoo ...	B. 149 P P 1219, 1905 S 65
33	Simbhálu ...	Vitex negundo ...	B. 369 P P 1387, 2096 S 166
34	Thohar ...	Euphorbia royleana and neriifolia	B. 438 f. P P 1473, 1597, 1923 S 194 f
35	Tút	Morus alba ...	B. 407 P P 972 1488 S 217 f.

The *dhák*.

The *dhák* is the commonest and one of the most generally useful trees in the tract. It grows gregariously in all lowlying stiff soil and drainage lines, and is found in great belts of dense scrub all over the Nardak high-lands. The soft tough wood stands water well, and is used for well curbs and the lanthorn wheels of Persian wheels, and also for bullock yokes. The scoop for lifting water is made of thin slices of it sewn together with leather, and similar slices are used for the hoops of sieves and the like. Fire used at religious ceremonies is always made of this wood. The leaves are used as plates and drinking cups at big dinners; small purchases from the shop are wrapped up in them, and buffaloes eat them when young. The

The Dhák.

flowers boiled in water yield an inferior dye for clothes, and when dried and powdered form the *kesú* or red powder used at the Holi festival. Cattle also eat them, and they improve the milk. The leaves are eaten eagerly by buffaloes, but cows do not like them. When quite fresh they are not good fodder. The roots are sometimes dug up, beaten, soaked in water, beaten again, split up, beaten a third time, washed, and the resulting fibre used for the rope of a Persian wheel and other purposes. But the rope so obtained is very inferior. The fibre is used to coat the rope in a *charas* well. The resin which exudes from the *dhák* is called kino (vern. *kani*). It is collected by a caste called *Herí* who come from the east; and a man following this occupation is called *dhák-pachu*. They pay a small sum for liberty to collect the gum and gash (*páchná*) the trees in rows at distances of a span. Next day the resin which has exuded is scraped off into a small vessel. When dry it is beaten with sticks into small pieces, and winnowed to separate it from the bark and refuse. Its properties are elaborately described by Mr. Baden-Powell. Here it is used chiefly to clear indigo and as a tonic, and never for tanning. The gum is collected from the tree when the thickness of a man's thigh, or about four to five years old, and a good tree will yield two seers, and again a smaller quantity six or seven years later; but the yield varies greatly. A rainy season favours its production, and the best time of year is the cold weather.

Other trees.

The *kíkar* is the next most useful tree. It grows gregariously all over the tract, save in the lightest soils. It is said to flourish in soil impregnated with sulphates; but plantations of it were tried on the canal in such soil, and failed almost entirely. It grows chiefly in Khádar lands, whether Khádar of a hill stream or of the Jamná. The hard, strong, close wood is used largely for agricultural implements and especially for all bearings, rollers, linings of presses, ploughshares, and the like, which undergo much wear and tear. It makes very fine charcoal. The bark is used largely for tanning, and to control the fermentation in distilling, and the seed pods are greedily eaten by cattle and goats.

The *khajúr*, or the wild date palm, is abundant all over the Khádar. Its soft stems are hollowed out for water channels. The leaves are used for hand fans (*bíjna*) and mats. They are also stripped off their stems, split up into strips, and beaten with sticks till the fibre is soft, when ropes are made of it, chiefly for the Persian wheel. The process, however, is very laborious, and the rope exceedingly inferior. The fruit which is poor, is eaten by the villagers. No spirits are distilled from it since the cantonment was moved from Karnál.

The *farásh* is found throughout the district chiefly in Khádar. Its wood is used for building purposes, and when young, for charcoal. The galls (*maín*) are used for dyeing.

The *pípal*, *pilkhan*, *gúlar*, and *bar* are solitary figs, chiefly valued for their splendid shade. One or other is almost always to be found outside the gate of the village. The *gúlar* wood stands water especially well, and is used for well curbs, as is, though less frequently, that of the *pípal*. The *pípal* leaves, too, are very fine fodder; but are only used in famines, as the tree is sacred.

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Other trees.

The *shìsham*, *tút* and *nìm* are not very common except where sown. The former gives the best wood grown in these parts for all purposes which require strength and toughness. The fruit of the *tút*, or wild mulberry, is eaten by the children, and the twigs are used as withies for basket-work of all sorts, and for the lining of unbricked wells.

The *amb* or mango is the favourite tree for groves, and every village out of the Nardak, and especially in the Khádar, has several. The fruit is exceedingly poor, and not sold as a rule. The leaves are used for charms, the wood for bowls for kneading dough, and for any purposes in which durability or strength is not required.

The *jamoà* is always used for the outer rows of groves, growing straight and tall and close together, and shielding the trees inside. It must be distinguished from the *jámun* or Eugeria jambos. The wood is used for building purposes and for bedsteads; and the fruit, which is inferior, is eaten by the villagers.

The *kendu* is common except in the Khádar. The wood is very tough and hard, and is used for prongs and teeth of agricultural implements.

The "*sonjna*" or horse-raddish tree yields long green buds which form a favourite pickle, and the tree is always ruthlessly lopped, as only the young shoots bear fruit.

The *bakàin* or Persian lilac, with its delicious scent, is often found by the well. Its wood is used for ox-yokes.

At Karnál itself there are, probably, the finest fruit gardens in Northern India, dating back from the times of the old cantonment while the mangoes of the canal and other gardens surpass even those of Saháranpur. The old canal, too, has a very fine selection of trees, many of them rare, on its banks.

Shrubs

The *jàl* and *kair* grow gregariously all over the higher and poorer parts of the tract, except in very light soils. The fruit of the former is called *pílù*. The buds of the latter are called *tìnt*, and are eaten boiled; the ripe fruit is known as *pìnjù*. Both fruits ripen in Jeth, and form a real resource for the poorer classes in famine years. The wood of the *kair* is greasy, and the churn-staff is therefore always made of it.

The *jhàu* grows in the low sandy flats all along the river edge.

The *simbhàlù* is common in all the lighter soils of the tract. Both are used for basket-work, and for lining unbricked wells.

The *jànd* makes good charcoal; and the unripe pods are called *sàngar*, and eaten boiled or fried. The tree is often sacred to the inferior deities. In the Nardak it is partly replaced by the *nìmbar*.

The *jhárberi* flourishes everywhere except in the Khádar. The ripe fruit is called *bèr*, and is eaten in Jeth. The bushes are cut in Kátik and Jeth and piled in a heap (*bint*) to dry. They are then beaten with sticks, and the broken leaves form *pálá*, a very valuable fodder. The leafless thorny bushes (*wár* or *chàp*) are used for hedges.

The *hìns* and the *hìngo* are common, especially the former. It is a noticeable feature of the Ghagar jungles. The cut bushes make splendid hedges, the thorns of the former being especially formidable. The latter makes good fuel.

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Shrubs.

The *arni* and *satràwal* are chiefly remarkable for the delicious and powerful perfume of their flowers, which scents the air for many yards round. The former is used for charcoal, and pipe stems are made of the branches.

The *thohar* or euphorbia, and the *nágphan* or prickly pear, are used for live hedges in the Khádar, where thorny bushes are scarce.

The *ák* grows everywhere, and is used in curing tobacco. Its root is officinal.

Among herbs, the *piáji* is chiefly remarkable as the mark of bad sandy soil. It grows in cultivation only, chiefly in Khádar. The *jawásá*, *rus* and the two *kandaì* grow among the crops in the light-flooded soil along the river edge, and do them an immensity of harm. Their presence is a proof that the soil was too wet at sowing for the yield to be good. Traces of *lána* or the *sajji* plant are to be found in the Kaithal *tahsìl*.

Grasses.

The principal jungle grasses of the tract are given below omitting the many species that grow on fallow only :—

No.	Vernacular name.	Botanical name.	Reference.
1	Anjan ...	Andropogo iwarancusa .	S 253. P P 889, 1535.
2	Barú ...	Sorghum halepense	P P 880. S 262.
3	Dáb ...	Poa cynosuroides	P P 1540, 1782. S 254. N W P ii, 278.
4	Dílá ...	Cyperus tuberosus ...	P P 880. S 264.
5	Dubh or Dúbra	Cynodon dactylon	P P 875, 1783 S 253. N W P ii, 203.
6	Gándhi ...	Andropogon sp. ? .	P P 877.
7	Ganthíl.	. .	
8	Kurí ...	Eragrostis sp. ? ...	S 255.
9	Munj .	Saccharum munja . .	P P 1878, 1802. S 261.
10	Muthpurá.		
11	Palwán ...	Andropogon annulatum	P P 879. S 248.
12	Panni ...	Andropogon muricatum	P P 1534, 1803. S 248. N W P ii, 308.
13	Rus.		
14	Sánwak ...	Panicum colonum ...	P P 836, 876. S 258.
15	Sarála ...	Heteropogon contortum	S 255.
16	Sarkara ...	Saccharum spontaneum	P P 880. S 261.

The *dáb* is the *kushá* or sacred grass of the Hindus. It is a coarse grass growing in lowlying moist places, and is chiefly used for ropes. It is cut in Kátik, dried, beaten, soaked in water for a few days in the hot, or a month in the cold weather, and the fibre washed and dried. The process requires little labour, and the ropes never rot. They are not strong, however. They are used for the ropes of the Persian wheel, where they will last three months or more, for stringing bedsteads, and for general purposes. Buffaloes eat the young grass, and the old grass is sometimes used for thatching.

Panní is a very similar grass to the above in habit and appearance. It is very abundant, and is the principal thatching grass of the country. Its roots form the sweet smelling *khas* used for *tattìs*. The culm or seed stem is called *béran* or *sínk*, and is used for making brushes, and for religious purposes. Buffaloes eat the young grass.

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Grasses.

The *sarkara* or *sarkanda* (tiger grass) is found on the canal and in the Khádar. The thick strong culms are called collectively *bind*, and are used for making chairs, boxes and screens, and the leaves for thatching. Mr. Baden-Powell would seem to have confused this grass with the one next following.

Múnj is very like *sarkara* in general habit and appearance, but is much thinner in the stem, and is found only in the Khádar. The top of the culm is called *tílú*, the sheathing petiole *múnj*, and the two together *majori*. *Múnj* is used for making string and rope, and is stronger than *dáb*. It is also used for matting. The *tílú*, which is peculiarly fine, elastic and polished, is used for making winnowing pans (*chhój*), coverings to protect roof ridges, carts, &c., from the rain (*sirkhi*), clothes boxes, and the like. This grass must be distinguished from the hill *múnj* of the Panjáb, which is *Andropogon involutum*, and is here called *bhúbar*.

The following are the best fodder grasses in order of merit :— *Dúbh, anjan, palwán, gándhi, sarála, rus.* All these are cut and stacked as hay. *Sánwak*, when young, is best of all ; but falls off as it gets older. Its seed is eaten in fasts. The other grasses given in the list are all grazed when young, but are very little used later on. The roots of the *díla* or sedge are eaten on fast days.

CHAPTER II.

HISTORY.

SECTION A.—PHYSICAL.

Chapter II, A.

Physical History.

Changes in the course of the Jamná.

The question whether the Jamná ever, as thought by some geologists as well as archæologists, formed a part of the western water system, is too large to touch upon; but if the Jamná ever did run into the Indian Ocean, the two large and very remarkable bights in the Bángar on which the cities of Karnál and Pánípat stand, and which cut right through and extend to the west of the water-shed, almost certainly mark two intermediate steps in its change to its present course; and the old course must have run along the foot of the Nardak step, where the main canal runs now. But changes in this stream have been, during historical time, confined within the limits of its present Khádar. That it did once flow below the towns of Karnál and Pánípat, in the bed immediately under the Khádar bank now occupied by the Búrhí Nadí, is beyond a doubt. And it is also certain that it did not at once wholly abandon that bed; but that a branch of some importance continued to flow in the old channel till comparatively recent times. In 1398 A.D., Taimúr encamped on the banks of the river of Pánípat on his way from Pánípat to the Jamná; and the Aín Akbarí, written about 1590 A.D., states that "the stream of Sanjnaulí (a village in the Khádar) runs under the town of Karnál." There is a universal tradition that the Búrhí Nadí used to flow regularly in flood times within a comparatively recent period; and within the memory of man the floods have passed from the river above Dhansaulí and run down the old bed as far as Dehli, the last occasion being in 1864 A.D. But the strongest evidence is afforded by the map, which clearly shows that in some parts of its course the river or its branch suddenly changed its course, while in others it gradually retreated. On this part of the Jamná, the villages on the river edge divide alluvion thrown up in front of them by straight lines drawn from the end of their old boundaries to meet the main stream. The result is that, as the general tendency of the stream is to shift eastwards, the boundaries of villages which have had a gradually receding river frontage for any considerable period, run out to the east in long parallel lines. This formation is well marked on the present river frontage; and it is impossible to look at a map showing the village baundaries of the Karnál, Pánípat, Sunpat and Dehli Khádars, without being convinced that exactly the same process has taken place in some places and not in others along the course

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of the Búrhí Nadí or Gandá Nálá, the dry channel of which still runs under the Khádar bank. There are two well-defined blocks of land which are clearly marked off from the rest of the Khádar by the superior stiffness of their soil, and by their sharply-defined river bank. They are:—the block including Átá, Dahrá, Rákasahrá and Ganaur, and that including Barsat, Púndri, Bábail and Korár. Now, these two blocks consist of villages with more or less circular boundaries, while the villages to the west of them show marks of alluvial accretion; and there is little doubt that these former villages were at no *very* distant period on the east bank of the Jamná. This conclusion is borne out by local tradition, which tells us that Ganaur and Barsat, with all the villages about them, formerly lay to the east of the river. Mr. Ibbetson writes as follows:—

"My personal knowledge of the soil of every village in the Khádar, and of the innumerable old channels still to be traced, has convinced me that these two areas have wholly escaped the river action which in comparatively recent times hasgone on throughout the remainder of the Khádar; and that here, and here alone, the main river has changed its course suddenly and not gradually. It follows, of course, that the change in that course may have taken place after, and not before, the date of origin of these villages."

As regards the date of the change, almost the only data we have are the number of generations for which the various Khádar villages are said to have been inhabited. The Pánípat tradition is that the river left the city walls in the times of Búali Qalandar, or about 1300 A.D. The villages over which the river appears to have passed comparatively recently show from 10 to 15 generations in their genealogical trees; those which the river appears to have gone round, from 20 to 30. Of course, even supposing the genealogical tree to be absolutely correct, it by no means follows that all the generations have followed since the foundation of the village, for the community traces back its descent to its common ancestor; and it is always possible, and, in villages settled as offshoots from a neighbouring parent village, almost certain, that the family as it stood at some stage of its descent from him, and not the ancestor alone, emigrated to the new village. Much information on the riverain changes of the Panjáb is to be extracted from the first few pages of Mr. Medlicott's sketch of Panjáb Geology, published in the Provincial volume of this Gazetteer.

The Chautang and Naí Nadí.

The existence of numberless abandoned wells throughout the Nardak jungles affords certain proof that the tract was once far less arid than it is now; for extensive irrigation with water at 70 to 90 feet from the surface is impossible, at any rate to Rájpúts. The whole countryside say that the Chautang was dug out and straightened by some former Emperor, and used in old days to flow continuously as a canal; and that when the stream became intermittent, the water-level sank and the wells were abandoned. The names of the builders of many of the wells are known; and it would appear that the change dates from not so very many years back. It is noticeable that Nádir Sháh, in January 1739, crossed "a large river" at Taráorí on the Naí Nadí; and the people say that one of the old Emperors built a dam and turned part of the Chautang water into the Naí. The whole matter is intimately connected with the interesting question of where Fíroz Sháh's canal really did run.

This will be the most convenient place to give such information as is available with regard to the earlier famines in these parts. In 1783 A.D., or 1840 S., there was a terrible famine known as the *chàlisa* in which grain rose to 4 seers the rupee, and the horrors of which have been handed down by tradition to the present generation. No efforts were made to relieve the distress, and even rich men died in numbers. In 1803 A.D. or 1860 S., there was a total failure of crops, and great distress, but little mortality. In 1812 A.D., or 1869 S., grain rose to 10 seers per rupee; but great efforts were made to encourage private enterprise and transport, and the mortality was not great. In 1824-25 A.D., or 1881 S., there was a terrible famine. In the former year the crops withered up; in the latter none were sown. No grass sprang up, the cattle died, agricultural operations were suspended, the people fled, and not one-fifth of the revenue was collected, and in many villages none was even demanded. The export of grain to the south, where the distress was even more severe than in the tract itself, helped to raise prices. But there would not appear to have been any very great mortality.

In 1833 A.D., or 1890 S., the whole country was overwhelmed by the most terrible famine which village tradition can recall, forming the epoch from which old men fix the dates of events. In many villages no land was even ploughed up for the autumn crop; in but few was any seed sown; in none was a crop reaped. What little grass sprang up was eaten by locusts. The cattle died;* grain rose to 8 seers per rupee, and the people followed their cattle; while crowds of emigrants from the high-lands to the west poured into the district to help the residents to starve. The spring rains were abundant, and where cultivation was possible, an ample yield combined with famine prices more than covered the money loss of the preceding season; but men and cattle alike were wanting to take full advantage of the opportunity. And when the rains of 1834 again failed, the district simply broke down. Large remissions and suspensions of demand were made, large balances accrued on the remainder, the jails were once more filled with defaulters, and villages were again deserted in every direction. On this occasion it was proposed to prohibit the export of grain to the west; but Government sternly refused to allow of "any tampering with the grain market as highly objectionable in principle, and likely to lead to disastrous results."

In 1837 A.D., or 1894 S., the failure of the rains again caused the greatest distress. In the district itself there was nothing more than a severe drought, in itself a sufficiently depressing circumstance. But further south the calamity assumed the proportions of a great famine, so that in some places the people were "driven to move bodily to find food elsewhere;" and the demand for grain thus created drove up prices in Pánipat to famine rates. Wheat was again at 8 to 10 seers per rupee. In 1841 A.D. a terrible epidemic of fever ravaged the whole of the Dehli territory, the mortality being so great that "in many places the crops died for want of persons to look after

* Mr. John Lawrence says:—"As early as the end of April there was not a blade of grass to be seen for miles, and the surrounding plains were covered with the carcases of the cattle which had died from starvation. On the canal splendid crops were cut down and sold as fodder to those who could afford to pay for them."

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them," while the Government revenue showed a deficit of Rs. 2,37,000; and in 1843 another of a similar character, but even more terrible, devastated the country. In 1842 the rains failed, but the calamity assumed the proportions of a drought rather than of a famine. In 1851 a drought began, which continued to 1852, almost causing a famine; and the effects upon the crops were "infinitely disastrous." In 1858 A.D., or 1917 S., the rain-fall was scanty; in 1859 it consisted of "only three or four heavy showers;" in 1860 it was less than 6 inches at Karnál. Within two months the price of wheat rose from 23 to 9 seers per rupee, the large export of grain across the Jamná greatly enhancing the demand. Relief works were set on foot, and from January to September 1861, the weak and sickly were fed at an expense to which the famine fund alone contributed Rs. 41,500. In August of the same year, 22,237 souls received relief in this manner. Cholera broke out in the camps, and the mortality was considerable among both men and cattle. In the Nardak two-thirds of the collections were suspended; and between 1860 and 1863 balances of Rs. 43,000 accrued, of which more than Rs. 27,000 had eventually to be remitted.

In 1869 A.D. or 1925 S., a famine again occurred, which was not so general, nor in the lower parts of the district so severe as that of 1860. But in the Nardak and the Kaithal *tahsíl* the failure of crops was more complete, and the distress greater; and the terrible mortality among the cattle left far more lasting effects upon the prosperity of the people. In 1868 both crops entirely failed, and in 1869 no rain fell till August, and the autumn harvest was accordingly scanty, while the spring harvest again entirely failed. Relief works of a very extensive nature were again opened, and alms distributed as before. From first to last Rs. 1,71,643 were spent, and 19,90,700 souls fed, the daily average of helpless persons receiving gratuitous relief in April 1862 being Rs. 12,120, in addition to Rs. 1,814 on relief works. Cattle to the number of 65,000 died, and "saved the *Chamárs* and *Chúhrás* from starvation." Of the Nardak in particular, the Deputy Commissioner wrote:—

"Hundreds of people are in a state of semi starvation, never getting enough to eat from one day to another. Not a leaf is to be seen on the trees that have, while they lasted, made a wretched substitute for fodder for the cattle. Skeletons of cattle in all directions, empty huts, and lean countenances of the people remaining in villages, indicate a state of poverty fully justifying the relief proposed."

The Government, in its review of the famine, stated that it was more severe in Karnál than in any other district of the Panjáb. The suspensions for the district, including the high tract of Kaithal, were Rs. 46,647, Rs. 19,400 out of a demand of Rs. 24,000 being suspended in the Nardak of the Karnál *tahsíl* alone in 1869. Nearly 20,000 cattle died in the Nardak alone, and the people have never recovered from the effect of this terrible blow, directed as it was at their most certain source of sustenance.

During the progress of Mr. Ibbetson's Settlement operations a drought, in some respects more destructive, because more prolonged than any of its predecessors, afflicted the Nardak. From 1875 to 1877 the people had not a single good crop. Poor-houses were opened, and relief works set on foot; but mortality was small, and in

fact famine pitch was hardly reached. But the grass famine was terribly complete; and the cattle again suffered fearfully. Large remissions and suspensions were again sanctioned, but the strain on the resources of the people was very severe.

Famines.

It is curious to note the regularity with which drought or famine years recur, as shown in the following series of years:—1783, 1803, 1812, 1824, 1833, 1842, 1851, 1859, 1869, 1877, 1883.

SECTION B.—POLITICAL.

General remarks.

The great plain of which the district forms a part, lying, as it does, at the very door of Hindústán, has from the time of the Mahábhárat to the establishment of English rule been the battle-field of India. But the portion with which we have to do is so near to the capital of Dehli, that whenever and for so long as the empire which centered in that city existed as more than a name, the political fortunes of Karnál were practically identical with those of Dehli itself. Thus all that will be attempted here is to relate so much of its political history as is distinct from that of the Imperial city, and to notice briefly the historical events which took place within the tract itself. The tribal history of the tract is given in Chapter III.

Antiquities.

The objects of antiquarian interest existing in the tract are few in number and of little importance. The most curious of them is the old shrine of Sítá Mái, at the village of that name in the Nardak. It is built in the ordinary form of a Hindu temple, of which Mr. Fergusson gives many examples in his hand-book of Indian Architecture. It is of brick; but the curious feature is the elaborate ornamentation which covers the whole shrine, the pattern of which is formed by deep lines in the individual bricks which seem to have been made before the bricks were burnt, so that the forms they were to take must have been separately fixed for each brick. A large part of the shrine was pulled down and thrown into the tank by some iconoclast Emperor; and though the bricks have been got out and the shrine rebuilt with them yet they have been put together without any regard to the original pattern. The broken finial, part of which has been recovered, is of a curious shape if it was originally made for a Hindu temple, as it is more suggestive of Buddhist symbolism. The shrine is said to mark the spot where the earth swallowed up Sítá in answer to her appeal for a proof of her purity. The shrine of Qalandar Sáhib at Pánípat possesses two slabs of touchstone of very unusual size. It was built by Khizi Khán and Shádi Khán, sons of the Emperor Ala-ul-dín Ghori. Pánípat possesses several buildings dating from early Afghán times; and the Kábul Bágh mosque built by Bábar will be mentioned below.

Mínárs which mark the course of the old Trunk Road are still standing at intervals of about two miles. And the ruins of the hostelries (*saráis*) at Gharaundá and Simbhalka are still in existence, the former being a very fine and striking specimen of early Mughal architecture. It was built by Khán Fíroz in the reign of Sháh Jaghán about 1632 A.D. The contrast between the huge brick gates which

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were then necessary for the protection of travellers, and the slight structures which now suffice for the same purpose, speaks volumes as to the state of the country at the respective periods.

Karnál is included in the *Brahmárshídesá*, or land of divine sages, the sacred river Suruswatí being at Thánesar, only 20 miles north of Karnál, and the Drishádwati, if that is the Chautáng, cutting the district into two nearly equal parts. All the north-western portion, comprising most of what is called the Nardak, is included in the *Kurúkshetrá* or field of the great battle described in the Mahábhárat and caused by the refusal of the Kurús to give up the five *pats*, of which Pánípat was one. In fact Nardak is properly but another name for the Kurúkshetrá, though it is wrongfully but conveniently extended, by local custom, to a certain conterminous area to which it does not properly apply. The word is said to mean ruthless (*nir* without, *dáya* pity—Sanskrit); and the story goes that the Kurús and Pándus, being relations, sought for a place to fight where the inhabitants should be specially hard-hearted, and chose this spot because there they found a man cutting off his son's head with which to dam his water-course. But Huen Tsang says that the Nardak was known as the Happy Land when he visited it, and this would seem to point to *dukh* or pain, as the second factor in the word. The limits of the Nardak and the antiquities of the tract are elaborately discussed by General Cunningham in his *Archæological Survey Reports*, II, 212 to 226, and XIV, 86 to 106, and *Ancient Geography*, 329 to 336.*

The southern boundary of the Kurúkshetrá is the Naí Nadí, which cuts off the western corner of the Karnál *parganah*, and reappears in the south-west corner, where, at the village of Sínk, or south-west corner of the Kurúkshetrá, Tarku Jakhsh is said to be situated; and all that lies beyond this line is included under the general term *arab* or non-Nardak, or is called *dher*, meaning vast. The Nardak itself is also called *ran* or battle-field, and the term is locally applied to any barren soil, as they say that such soil marks the spots where the sparks from the weapons of the combatants fell. The scenes of many of the incidents narrated in the Mahábhárat are still pointed out by the people, and the whole area is full of *tíraths* or holy tanks. It was at the village of Bastali (*Viás Asthal*) that the sage Viás lived who wrote the Vedá that bears his name; and there that the Ganges flowed underground into his well to save him the trouble of going to the river to bathe, bringing with it his *lotá* and loin cloth which he had left in the river, to convince him that the water was really Ganges-water. The well is still there to shame the sceptic. It was at Gondar that Gotam Rishi caused the spots in the moon, and gave Indra his 1,000 eyes. It was in the Párásir tank at Bahlolpur that the warrior Daryodhan hid, till Krishná's jeers brought him unwillingly out to fight; and this is still the most celebrated of the

* On this subject Mr. Ibbetson, remarks:—"With all due deference to so distinguished an authority, I cannot help thinking that General Cunningham raises some unnecessary difficulties. Huen Tsang's words may surely be taken to mean that the *radius*, and not the *circumference*, of the Happy Land was 200 li. And Manu surely states that the Kurúkshetrá is not included in the Brahmávartá. I think General Cunningham's reading of the text would exclude some of the holy places which he himself includes in the Nardak."

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tírathe of this part. The local legends are far too numerous and lengthy to give here; they have been collected into a little book called Kurúkshetrá Darpan, compiled in 1854 by Munshi Kálí Rái, Extra Assistant Settlement Officer of Thánesar, and printed at the Koh-i-núr Press, Lahore.

Buddhist period.

The enormous number of Indo-Scythian coins (of a type which has not yet been described) which are found at Pohlar on the Suruswatí, 10 miles north of Kaithal, would seem to show that these parts were about the Christian Era, included in the Indo-Scythian Empire; and Safídon, on the border of the district, is still pointed out as the site of the great slaughter of snakes (or Scythians with a snake *totem*) mentioned in the Mahàbhàrat. About 400 A.D. the Chinese pilgrim Fa Hian, and again in 635, his successor Huen Tsang, traversed the district. At the time of the latter's visit it was included in the kingdom of Thànesar. The curious form in which legend of the Mahàbhàrat is given by the traveller is most interesting. It is not improbable that the Gominda monastery described by him, and identified by General Cunningham with the village of Gunána, is now represented by the monastery of Síta Máí described below, and only four miles from Gunàna.

Early Muhammadan invasions.

In 1011 A.D. Mahmúd Ghaznavi sacked Thánesar, only 20 miles from Karnál, but made peace with the Dehli Rájá and returned without coming further south. In 1017 A.D. he plundered Mathra. In 1039 A.D. his son, Sultàn Masaúd, annexed this part of the country, leaving a governor at Sunpat to administer it in his name; but it was re-conquered by the Hindus four years later. In 1191 A.D. Muhammad Bin Sàm Ghorí was wounded and his army utterly routed by Rài Pitora at Narainà, seven miles from Karnàl and three from Taráorí. This village is situated in the Nardak, on the Naí Nadí. The Rakshi, or at any rate the stream now known by that name, is artificially joined with the Chautang at Làdwa in the *tahsíl* of Pípli by a cut, and below that its natural bed is silted up and carries little water. Elliot and Cunningham gave Naraina as on the Rakshi. The stream east of Butana is locally known by this name, which may account for the inaccuracy. Next year the Sultàn returned, found Rài Pitorá encamped on the same spot, defeated and killed him in the battle which ensued, and conquered Dehli. This battle finally substituted Muhammadan for Hindu rule throughout the Dehli territory, Kutbuldín Aibek being left at Dehli as the representative of the Ghorí monarch, and being made independent by Ghiàsuldín Ghorí in 1205 A.D. under the title of Sultàn.

History under the Pathán dynasty.

On the death of Kutbuldín in 1210 A.D., his Indian possessions were divided into four provinces, Dehli and its environs falling to the share of Sultán Shamsuldín Altamash. The province of Lahore was given to Tájuldín Yeldáz; and in 1215 the two fell out about their common boundary, and in a battle, again fought at the same village of Naraina, Tàjuldín was killed. In 1390 A.D. Prince Humàyún, afterwards Sultàn Alàuldín Sikandar Shàh, who was in command of the army of his father Sultàn Násiruldín Muhammad Bin Fíroz, pitched his camp at Pánípat and plundered the environs of Dehli, which was in the possession of the rebel Abu Bakr Tughlak. The latter marched out and defeated him at Pasíná, a small Khàdar

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village some seven miles south of Pánípat, built on the deserted site of a very large village which is still said by the people to have been destroyed in a great battle. There were 4,000 cavalry engaged on one side alone on this occasion. In the early years of Mahmúd Sháh's reign (1394 to 1396 A.D.) the pretender Násiruldín Nasrat Sháh held the fiefs (*ikta*) of Sambhal, Pánípat, Jhajjar and Rohtak, the Emperor being almost confined to the capital. In 1397 Mulla Iqbál Khán, one of Mahmúd's Generals, and Governor of the Fort of Siri, drove Násiruldín by treachery from his head-quarters at Fírozábád; and the latter took refuge with Tátár Khán who had been Prime Minister to Ghiásuldín Tughlak II. Iqbál Khán then seized upon Mahmúd's person, and practically ruled in his name. Meanwhile Tátár Khán had encamped at Pánípat, and Iqbál Khán marched against him; whereupon Tátár Khán, leaving his baggage and materials of war at Pánípat, reached Dehli by forced marches and laid siege to it. Iqbál Khán then invested Pánípat, and took it in three days, upon hearing which Tátár Khán raised the siege of Dehli and fled to Gujrát.

Invasion of Tamerlane.

When Taimúr Sháh invaded India, he marched through the district on his way to Dehli. His route is very fully described in his autobiography, and also in the Zafar Námah: and it is easy to trace it throughout, except between Múnak (Akálgarh) and Kaithal. It is almost certain that he crossed the Suruswatí and Ghagar by bridges at Polar Mazra and Gula the remains of which still exist as noticed in Chapter I, page 6. From Kaithal he marched through Asandh to Tughlakpur, which was said to be inhabited by fire-worshippers. Price identifies this place with Safídon. But it is almost certainly Sálwan; the words "the people of this place who also called Sálún," being probably a misreading for "*which* is also called Sálwan." From Sálwan he marched, the front of his army extending for more than 20 miles, to Pánípat, which he reached on 3rd December 1798 A.D. The people had deserted the town in obedience to orders from Dehli; but he found there 10,000 heavy maunds, equal to 160,000 standard maunds, of wheat, which he seized. Next day he marched six *kos* and encamped on the banks of "the river of Pánípat, which was on the road." This can have been no other than a branch of the Jamná, then flowing under the town in the channel of the *Búrhi Nadí* or old stream. He then marched *viâ* Kanhi Gazin to Palla on the Jamná in the Dehli *tahsíl*, while a detachment harried the country round and brought in supplies. Seven days later he defeated Sultán Mahmúd at Dehli. Ferishtah says that Taimúr returned by Pánípat; but this seems to be a mistake for Bágpat.

Anarchy previous to the Mughal dynasty.

In the anarchy that followed the departure of the invader, and in the subsequent struggle between the Saiyads and the Lodís, Karnál was entirely separated from Dehli, and belonged, first, to the ruler of Samáná, and eventually to the Lodí rulers of the Panjáb. During the reign of Bahlol Lodí, his son Prince Nizám Khán, afterwards Sikandar Lodí, seized Pánípat and held it as *jágír* without permission. He made it his head-quarters, and his force there included 1,500 cavalry. Karnál and Pánípat were on the high road from Sirhind and Fírozpúr to Dehli; and from the time of Taimúr

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to that of Akbar, or for 150 years, armies were constantly passing through the tract, and battles, more or less important, being fought in it.

First battle of Pánípat.

In 1525 A.D. Aláuldín Alim Khán was sent by Bábar with a Mughal army against his nephew Sultán Ibrahím Lodí, and was joined at Indrí by Mián Sulimán, a Pírzádah of Pánípat, with additional forces. Being defeated near Dehli, he retreated to Pánípat, where he tricked his friend Sulimán out of three or four *lakhs* and went on his way. He shortly afterwards rejoined Bábar; and next year the Mughal army marched on Dehli. Leaving Ambálá, Bábar marched *viâ* Sháhábád to the Jamná near Aláhar in *tahsíl* Pípli, and thence followed the river bank to Karnál. There he heard that Aláuldín, whom he had sent on towards Dehli, had been defeated by Ibráhím, and that the latter had advanced to Ganaur. Mounting his horse at the Gharaunda *sarái*, Bábar led his army to Pánípat, which he selected for the battle-field, as the town would cover one of his flanks. He arrayed his army about two *kos* to the east of the city, with his right flank resting on the walls. Ibráhím Lodí took up a position at the same distance to the south-west of the city, and for a week nothing more than skirmishes occurred. At length, on 21st April 1526 A. D., Ibráhím Lodí's forces advanced to the attack, were utterly routed, and were pursued by Bábar's army to Dehli, while the conqueror remained encamped for a week to the west of Pánípat. He considered the spot a fortunate one, treated the people well, and made Sultán Muhammad Anglulí, who had assisted him with troops, Governor of Pánípat.

In this battle Ibráhím Lodí was slain, and his tomb lies between the *tahsíl* and the city of Pánípat. The District Committee about the year 1866 erected a tomb or plain platform over it, with a short Urdú inscription in order to rescue the site from oblivion, (see Chapter VI. S. v., Pánípat). It was one of Shér Sháh's dying regrets that he had never fulfilled his intention of erecting a tomb to the fallen monarch. In this battle, too, was killed, while fighting in Bábar's army, Sanghar, the founder of the Phúlkián family of Patiálá, and Vikramádityá, the last of the Tomara dynasty of Gwálior. The battle is fully described by several authorities, Ferishtah's descriptions differing materially from that of Bábar himself. After the battle Bábar built a garden with a mosque and tank on the spot; and some years later, when Humáyún defeated Salem Sháh some four miles north of Pánípat he added a masonry platform and called it *Chabútra Fatah Mubárik*. These buildings and the garden still exist under the name of Kábul or Kábil Bágh.* The building bears an inscription containing the words "Binái Rabi ul Awwal 934 Hij." In 1529 the Mándhar Rájpúts of the Nardak rebelled under their chief Mohan, and defeated the royal troops. Bábar then burnt the rebel villages. Later on, during the struggle which led to the expulsion of Humáyún, Fatah Khán Játt, Governor of the Panjáb, rebelled and laid the country waste as far south as Pánípat.

* Some say that Bábar said the spot was "*Kábil Bágh*," fit for a garden; others, that he planned the garden on the pattern customary in Kábul. Bábar had a wife called Kábuli Begam; and Sir E. Colebrooks says her name may possibly be derived from the name of a species of myrobalan (J. R. A. S. xiii. 279).

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Second battle of Pánipat.

When Humáyún died at Dehli, the young Akbar, who was then in the Panjáb, marched at once under the guardianship of Bahrám Sháh to meet the Afghán army under the great Hindu general, Hímu, who was advancing from Dehli. Passing through Thánesar, he arrayed his army 10 miles north of Karnál, and then marched to Pánipat, two *kos* to the west of which city Hímu was encamped. After a week's skirmishing, Akbar sent a detachment round the city to take Hímu in the rear, and advanced to the attack. The result was the death of Hímu and the total route of the Afgháns. Next day Akbar marched to Dehli, which he entered without opposition. The battle took place on 20th November 1555 (5th November 1556 ?) and is fully described by the Emperor Jahángír and by Ferishta.

Mughal dynasty

During the early years of the Mughal dynasty* the empire was so firmly established at Dehli that the district can hardly be said to have possessed a separate history. In 1573 Ibráhím Husén Mirzah, Governor of Barodá, rebelled and plundered Pánipat, Karnál, and the surrounding country. And again in 1606, Prince Khusro revolted and passed up this way from Dehli, plundering and pillaging as he went. When he reached Pánipat he was joined by Abdul Rahím; and Diláwar Ali Khán, who was at Pánipat with an imperial force retreated before them to Lahore. Jahángír himself shortly followed in pursuit, and moralised upon the success which Pánipat had always brought to his family. He then ordered the Friday devotion to be always held in the mosque of Kábul Bágh which Bábar had built; and this custom was continued till the Mahrattás occupied the mosque in the last battle of Pánipat. For more than two centuries the country enjoyed peace under the Mughals, the Western Jamná Canal was constructed, the Grand Trunk Road was put in repairs, *saráis* were erected at every stage, and a *mínár* and a well made at every *kos* for the use of travellers. The *mínárs* (brick pillars 24 feet high) and wells still exist; but the *saráis* of Sambhálká and Gharaundá are in ruins, while that of Karnál has disappeared.

Territorial divisions under the Mughals.

In the *Aín Akbari* we have the first record of the administrative divisions of the district. From very early times Pánipat formed a separate fief or "*ikta*," which probably included the Karnál *parganah*; and in fact Karnál is never mentioned in the early histories, and apparently was a place of little importance till towards the close of the Pathán dynasty. In Akbar's time the whole district was included in *Súbah* Dehli, and the greater part of it in *Sarkár* Dehli, of the seven *Dastúrs* comprised in which *Dastúr* Pánipat was one, with 10 *parganahs* as follows:—Pánipat, Karnál, Safídon, Kutána, Chhaprauli, Tándá, Bháwan, Ganaur, Jhinjháná, Kándlá, and Gangir Khera. But the *Dastúr* of Gohána in *Sarkár* Hissár may have included, and *parganah* Sunpat in *Dastúr* Dehli, *parganah* Thánesar in the *Dastúr* of that name and in *Sarkár* Sirhind, and the *Dastúr* of Indrí in *Sarkár* Saháranpúr, almost certainly did include some part of the district. In the fourth year of Farrúkhsír, that monarch is said to have

* It is generally said that this dynasty, really Turks, were called Mughals, because to the Indian every foreigner was a Mughal, just as every Indian is still a Moor to the British private. It is a curious fact that native officials are commonly called Turks by the villagers of these parts. If Munshis, perhaps all Hindus, are in the village rest-house, one villager will tell another—"*Turk log chopál mén baithe hué hain.*"—"There are Turks in the rest-house."

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separated the *parganah* about Sambhálká from Pánípat as a royal demesne for his own private expenses. It was not then known as Sambhálkà; and when we took the country that name was only applied to a few villages held by a *jágírdár* living at Sambhálká. But there *was* a lage *parganah* of Jaurásí in which Sambhálká was included and which was also the head-quarters of a *thappá*; and as this Jaurásí is divided into Jaurásí *sarf khàs* and Jaurásí *khálsá*, and as the Pánípat *parganah* is said to have consisted of 16½ *thappàs*, it is almost certain that what Farrúkhsír did was to separate one *chaurásí* for his private expenses or *sarf khàs*. As a fact, though this and many other similar groups of villages similarly assigned for specific purposes were often called *parganahs*, yet the old *kànùngos'* records, between 1750 and 1806 at any rate, show only the two original *parganahs* of Karnál and Pánípat.

Decay of Mughal dynasty.

Towards the end of the 17th century the Dehli Empire was fast falling to decay, and the Sikhs rising to power. In 1709 Bandá Bairágí, some time the chosen disciple of Gurú Govind, raised his standard in these parts, and, collecting an army of Sikhs, occupied the whole of the country west of the Jamná. He laid the whole neighbourhood waste and especially the neighbourhood of Karnál, where he killed the *faujdàr* and massacred the inhabitants. He was defeated by Bahádur Sháh near Pánípat in 1710, but escaped to found Gurdáspur. In 1729 a charge on *parganah* Karnál of five *lakhs* of *dàm* was granted to Diláwar Ali Khán Aurangábádí, whose ancestors had formerly held the *parganah* in *jàgìr*.

Invasion of Nádir Sháh and Battle of Karnál.

In 1738 Nádir Sháh, enraged at not being recognised by the Dehli court, invaded India. On 8th January 1739 he reached Sirhind, where he learned that Muhammad Sháh with an enormous army occupied a strongly fortified camp at Karnál. Nádir Sháh marched on to Taráorí, on which, it being a fortified town, he had to turn his guns before it would open its gates to him. Here he learned from some prisoners he had made that the approach to Karnál from the direction of Taráorí was through dense jungle, and exceedingly difficult; and that Muhammad Sháh had no room to move in, being encamped in a small plain which was hardly sufficient for his camp, and surrounded on three sides by thick woods. He accordingly resolved to take the enemy in flank from the south-east. On the 15th January he left Taráorí, and marching round by the banks of the Jamná to the back of the city, advanced to a position close to the Dehli camp; meanwhile he sent Prince Nasr Ullá Mirzah with a considerable force to a spot north of the canal and close to Karnál. All this time Muhammad Sháh was not even aware that Nádir Sháh was in the neighbourhood. Just at this time a detachment which had been sent to oppose Saádat Khán, the Viceroy of Oudh, who was marching from Pánípat with reinforcements, and missing the enemy had followed him up to Karnál, came to close quarters with him. Nádir Sháh and Prince Nasr Ullá at once marched to the support of their detachment, which was the first intimation the imperial army had of their presence. The engagement which followed was not decisive. But the army of Muhammad Sháh, which had already been encamped for three months at Karnál and had suffered greatly from want of supplies, was now cut off from the open country in the rear, and food

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became so scarce that a seer of flour could not be bought for four rupees. Thus Muhammad Sháh was starved into submission, and on the 13th of February yielded to the invader, who led him in his train to Dehlí. The operations are very minutely described in the Nádir Námah. Sir William Jones, in his French translation, speaks much of "Darián Hamún" close to Karnál, and between it and the Jamná. Mr. Ibbetson suggests that the words may be *daryá hamín*, and refer to the canal, which had already been described as a large river. In 1748 Ahmad Sháh was met at Pánípat by the royal paraphernalia and the news of the death of Muhammad Sháh, and there and then formally assumed the royal titles. In 1756 the Wazír Gháziuldín brought Alamgír II a virtual prisoner to Pánípat, and thus caused a mutiny in the army, the Wazír being dragged through the streets of the city. A horrible massacre followed the outbreak.

Third Battle of Pánípat.

From this time to the establishment of English rule, a time of horror followed which is still vividly remembered by the people, and was fittingly ushered in by the greatest of all the battles of Pánípat. In the rainy season of 1760, Sedásheo the Mahrattá Bháo marched upon Kunjpurá, an Afghán town close to Karnál, which was then strongly fortified, and at which 20,000 Afghán troops were then encamped. He put the whole of them to the sword, and pillaged the country round. Ahmad Sháh, who was in the Doáb, was unable to cross the Jamná in time to prevent this disaster; but at length he forded the river near Bágpat and advanced against the enemy, who, encamped at the time at the village of Pasíná Kalán, where the battle of 1390 A.D. had been fought, retreated to Pánípat. There the Mahrattás strongly fortified themselves; and the line of their entrenchments can still be traced on the plain between Risálú and Pánípat. The Duránís encamped close in front of them on the plains north of Risálú and Ujáon: and for five months the two armies, numbering more than 400,000 souls, remained engaged in fruitless negotiation and constant skirmishes. The accounts of the horrors of that time given by the people are very striking. The whole country round was devastated by the opposing hordes, and the inhabitants fled, insomuch that the people say that, besides the town, only the three villages of Phurlak, Dáhá and Bálá were inhabited at the time of the actual battle. The Durání army had free access to their camp on all sides, while they gradually confined the Mahrattás more and more to their entrenchments. The latter had long ago consumed all the provisions obtainable at Pánípat; at length supplies wholly failed; and on the 6th January 1761 the Bháo advanced to action. The battle is fully described by several authors. The Mahrattás were utterly routed and many of them were driven into the town of Pánípat, whence next morning the conqueror brought them out, distributed the women and children, and massacred the men in cold blood. The fugitives were followed all over the country, and killed wherever they were overtaken. It is said that 200,000 Mahrattás were slain in this battle. The people still point out the spot where the Bháo stood to watch the fight, marked by an old mango tree which has only lately disappeared. They say that the Mahrattá General of artillery, one Bahrám Ghorí, had been insulted by the young Bháo, and in revenge put no balls in his guns, otherwise the

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Giljás, as they call the Ghilzáí followers of Ahmad Sháh, would certainly have been beaten; and that the Mahrattá fugitives were so utterly demoralised that the Játwomen beat them with baskets, made them get off their horses, and plundered them royally.

No sooner had the Mahrattás temporarily disappeared than the Sikhs appeared on the scene of action. In 1763 they defeated Zan Khán, the Duráni Governor of Sirhind, and took possession of the whole of Sirhind as far south as Pánípat. "Tradition still describes how the Sikhs dispersed as soon as the battle was won; and how, riding night and day, each horseman hurled his belt, his scabbard, his articles of dress, his accoutrements, till he was almost naked, into successive villages to mark them as his." Rájá Gopál Singh on this occasion seized Jínd, Safídon, Pánípat and Karnál, though he was not yet strong enough to hold them; but in 1772 he was confirmed in his possessions up to within a few miles north of Pánípat and west of Karnál, as a tributary of the Dehli Emperor. At the same time Rájá Gurdit Singh seized Ládwa and Shámgarh up to within a few miles north of Karnál. Recalled by those events, Ahmad Sháh once more appeared, for the last time, in Hindústán in 1767, and, conquering the Sikhs in several battles, marched as far as Pánípat; but as soon as he disappeared, the Sikhs again resumed their hold of the country. In 1774 Rahímdád Khán, Governor of Hánsí, attacked Jínd; but was defeated with heavy loss, while Gajpat Singh again seized Karnál. In 1777 Najaf Khán, the Imperial Wazír, marched in person to restore his authority. The Sikhs invited the aid of Zábta Khán, a Rohillá Chief, who had rebelled; and joining their force with him, encountered the Imperial army at Pánípat, and fought a battle said to have been only less terrible than that of 1761. No marked advantage remained with either side; and by a treaty then concluded between the Rájás and the Emperor, the Sikhs relinquished their conquests in Karnál and its neighbourhood, excepting seven villages which Gajpat Singh was allowed to keep, and which probably included Sherá, Májrá Játán, Dharmgarh, Bál Játán, and Balá.

But the treaty was not observed; and in 1779 a last attempt was made by the Dehli court to recover its lost territory. In November of that year Prince Farkhundah Bakht and Nawáb Majíduldaulah marched out at the head of a large army, 20,000 strong, and met some of the minor Sikhs at Karnál. He made terms with these chieftains, who were jealous of the growing power of Patiálá; and the combined forces marched upon that state. While negotiations were in progress, reinforcements advanced from Lahore, the Karnál contingent deserted, bribery was resorted to, and the Imperialists retired precipitately to Pánípat. About this time Dharm Ráo held the southern portion of the district on the part of the Mahrattás, and was temporarily on good terms with the petty Sikh chiefs north of Karnál. In 1785 he marched, at the invitation of the Phúlkián chiefs, against Kaithal and Ambálá; and after some successes, and after exacting the stipulated tribute, withdrew to his head-quarters at Karnál. In 1786 Rájá Gajpat Singh of Jínd died, and was succeeded by his son Rájá Bhág Singh. In 1787 Begam Samrú was operating against the Sikhs at Pánípat, when

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recalled to the capital by Ghulám Qádir's attack upon Dehli. In 1788 Amba Ráo united with Zábta Khán's son to make an incursion, and was again joined by minor Sikhs at Karnál, and levied a contribution on Kaithal.

In 1789 Scindiá, having killed Ghulám Qádir and reinstated Sháh Alam, marched from Dehli to Thánesar and thence to Patiálá, restored order more or less in the country west of the Jamná, and brought the Patiálá Díwán back with him as far as Karnál as a hostage. In 1794 a large Mahrattá force under Antá Ráo crossed the Jamná. Jínd and Kaithal tendered their homage; but the Patiálá troops surprised the army in a night attack, and Antá Ráo retired to Karnál. In 1795 the Mahrattás once again marched north, and defeating Rájá Bhág Singh at Karnál, finally wrested that city from him and made it over to George Thomas, who took part in the fight. He had, however, obtained the *jágír* of Jhajjar, and making himself master of Hissár, harried the neighbouring Sikh territories; meanwhile Rájá Gurdit Singh, of Ládwá, obtained possession of Karnál. In 1798 Begam Samrú was stationed with her forces at Pánípát to protect the western frontier during the struggle with Jaipúr. In 1799 Scindiá sent General Perron, to whom the *parganah* of Pánípat had been granted, to bring the Sikhs to order. He recruited at Karnál, where the Nawáb of Kunjpurá joined him; but matters were settled amicably, and the army returned *viá* Pánípat, where they were joined by Begam Samrú, and took advantage of the opportunity to chastise Naulthá and other large villages for not having paid their revenue to Perron's Collector. In 1801 Thomas made a foray through Karnál and Pánípat, and then retreated to Hánsí. The Sikhs asked the Mahrattás for help against him; and Scindiá, on the Sikhs promising to become his subsidiaries and pay him five *lakhs* of rupees, sent General Perron against him. In the battle that followed Thomas lost all his conquests, retired to British territory and shortly afterwards died. Safídon and Dhátrat were then made over again to Jínd by the Mahrattás. The people of Bhagol in the north of Chilia still tell how Thomas carried off hostages from their town and only released them when ransomed by the Bháí of Kaithal.

Conquest by the English.

On the 11th September 1803, Lord Lake defeated the Mahrattás at the battle of Dehli; and on the 30th December, Daulat Ráo Scindiá, by the Treaty of Sirji Anjangam, ceded his territories in the north of India to the allies; while the Partition Treaty of Poona, dated five months later, gave the provinces about Dehli, from that time known as the conquered provinces, to the English. Immediately after the battle of Dehli Begam Samrú made her submission to General Lake; and the Rájás of Jínd and Kaithal were hardly less prompt. Their advances were favourably received; and in January 1805 they joined their forces with ours. The other Sikh chiefs, including Ládwá and Thánesar, had actually fought against us at Dehli, and for a whole year they constantly displayed active hostility, till they were finally routed by Colonel Burn at the end of 1804. In March 1805 an amnesty was proclaimed to all the Sikhs on condition of peaceable behaviour; but Rájá Gurdit Singh of Ládwá was expressly excluded from this amnesty. and in

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State of the country in 1805.

April of the same year the English forces marched upon his fort of Karnál and captured it.*

So ended that terrible time called by the people *Singáshâhi ká Rám-Raula* or *Bhdogardi*, the "Sikh hurly-burly," or the "Mahrattá anarchy." Its horrors still live vividly in the memory of the villagers. The Sikhs never really established their grasp over the country south of Pánípat; and they held what they did possess only as feudatories of the Mahrattás. But the whole period was a constant contest between the two powers; and the tract formed a sort of no-man's-land between their territories, and, coveted by both and protected by neither, was practically the prey of the strongest and most audacious free-booter of the day whether hailing from the Panjáb or the Deccan, for nobody cared to spare for to-morrow what he might only possess for to-day. Even as early as 1760, Nádir Sháh had to approach Dehli by way of the Doáb, as owing to the constant passage to and fro of the Mahrattá troops, the country was so desolated that supplies were unprocurable; and 40 years later, when we took over the district, it was estimated that "more than four-fifths was overrun by forest, and its inhabitants either removed or exterminated." The arrangement of the villages in groups of small hamlets, sprung from, and still holding sub-feudal relations with, the large parent village, made the concentration of the population in a few strongholds natural and easy; and out of 221 villages in *parganah* Karnál the inhabitants of 178 had been wholly driven from their homes and fields. The royal canal had long dried up, and thick forest had taken the place of cultivation, and afforded shelter to thieves, vagabonds and beasts of prey. In 1827 Mr. Archer remarked that "only a very few years had elapsed since this part of the country was inhabited wholly by wild beasts." Deserted sites all along the old main road still tell how even the strongest villagers had to abandon the spot where their fathers had lived for centuries, and make to themselves new homes on sites less patent to the eyes of marauding bands. Every village was protected by brick forts and surrounded by a deep ditch and a wall of some sort; every group of villages was at deadly enmity with its neighbours; and there are several instances where two contiguous villages, in memory of a blood feud dating from the Mahrattá times, refuse to this day to drink each other's water, though otherwise on friendly terms. In 1820 the Civil Commissioner reported, and the Governor-General endorsed his conclusion, that "the native administration took no concern in criminal justice or police, any further than as its interference in those respects might be made subservient to its immediate pecuniary gains; and that the village communities, while they held the property of their own society sacred, habitually committed depredations and aggressions on other villages or on travellers, *and generally shared the plunder they obtained with the ruling power or principal local authority.* Revenue administration there was none; the cultivator followed the plough with a sword in his hand; the Collector came at the head

* According to the schedule attached to the Treaty of Sirji Anjangam, the tract under the Mahrattás was held as follows:—Karnál, annual value Rs. 14,000, by Seth Singh, Sikh; Barsat, Faridpur, Rs. 35,000, by General Perron; Pánípat Rs. 99,478, by Bábáji Scindiá; Ganaur, Rs. 6,932, Sunpat, Rs. 39,348 and Gohána, Rs. 1,16,329, by Colonels John and Geo. Hessing. The whole list is extraordinarily incorrect.

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Early English policy.

of a regiment; and if he fared well, another soon followed him to pick up the crumbs."*

Meanwhile Lord Wellesley had returned to England and Lord Cornwallis had been sent out expressly to reverse his policy. The leading feature of the new programme was the withdrawal from all the recently-acquired territory west of the Jamná. And as that territory had to be disposed of, it was natural that the petty chieftains who had done us service in the late struggle, even if only by abstaining from or relinquishing opposition to us, should be rewarded. The whole country was therefore parcelled out between them and others. In the words of General Sir David Ochterlony, who superintended the whole arrangements—

"In the acts of that day I see many of most lavish and impolitic profusion; but not one in which I can recognise true British liberality and generosity. The fact is notorious that the policy of those times considered the most of our acquisitions beyond the Jamná as incumbrances; and the Governor-General's Agent's only embarrassment was, how to dispose of what Government had declared they could not or would not keep, in the manner least likely to be ultimately injurious to our vital interests. With this object in view, he formed a belt of *jágírdárs* round our ultra-Jamná possessions from Karnál to Agrá."

The sovereign powers of the Rájás of Jínd, Kaithal, Ládwá, Thánesar and Shámgarh, and of the Nawáb of Kunjpurá, were confirmed; and they were continued in the lands held by them under treaty from the Mahrattás, except that Ládwá was deprived of Karnál, as already mentioned. Besides this Jínd was granted Gohána, and the five villages of Shera and Májra Játán, Báljátán, Balá and Dharmgarh or Murána; and he and the Rájá of Kaithal had the *parganah* of Barsat-Faríd pur, made over to them jointly. The villages of Uncha Siwána, Ráinpur, Ránwar, Kambbohpora, Kailás with Mangalpur and Pípalwálí, were made over to the Nawáb of Kunjpurá The Mandals, who held large *jágírs* in Muzaffarnagar, were induced to exchange them for so much of *parganah* Karnál as was left unallotted. Begam Samrú received considerable grants, including some villages of the tract, in addition to her original fief of Sardhana; and considerable grants were made to people who had done good service, and notably to Mirza Ashraf Beg and Mír Rustam Alí. In 1809 the Jínd Rájá endeavoured to obtain from Government his old *parganah* of Karnál, but the *parganah* had already been allotted, and the endeavour was unsuccessful.

Final assumption of sovereignty by the English.

The policy which bade us abstain from interference west of the Jamná did not long stand the test of actual practice. In 1806 Ranjít Singh crossed the Satlej with his army and marched to Thánesar, and it soon became apparent that either he or we must be master. The events and negotiations that followed, how the Sikh army marched about within 20 miles of our lines at Karnál, and how we were compelled to insist upon Ranjít Singh's withdrawal beyond the Satlej, are told in most interesting detail by Sir Lepel Griffin in his *Panjáb Rájás*. The treaty of Lahore dated 25th April 1809, and the proclamation of the 3rd of May following, finally

* The state of the neighbouring tract of Kaithal, so late as 1843, is vividly described by Major Lawrence (Thánesar Settlement Report, pages 2, 4, 5): also see a very spirited account by Mr. Raikes at Chap. XXVIII of "The Englishman in India."

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included the country to the west of the Jamná in our Indian Empire; and with this event ended the political history proper of the district. The time are still fresh in the memories of the people, and the names of Lord Lake and Sir David Ochterlony (*Vulgice* Lony Ochter) still familiar to their tongues.

Final assumption of sovereignty by the English.

Subsequent events.

It will be useful to note the dates of a few events subsequent to the treaty of 1809. About 1810 the *jágír* grants which had been made in 1805-6, were declared grants for life only, and were taken under our police supervision. They were gradually resumed on the death of the holders. Bháí Lál Singh died in 1816, and Rájá Bhág Singh in 1819. *Parganah* Karnál was continued to the Mandals in perpetuity on a fixed quit-rent in 1806. In 1834 part of Jínd, and in 1843 the whole of Kaithal, lapsed to us on the failure of the reigning line. In the latter year parts of Safídon and Asandh were acquired from Jínd by exchange. In 1849 we confiscated the Ládwá estates as a punishment for treason in the Sikh war. And in the same year we deprived Thánesar, Kunjpurá and Shámgarh of sovereign power, and reduced them to the position of simple *jágírdárs*, the powers of Jínd, however, being left intact. In 1850 the whole of Thánesar lapsed on the death of the widow of Fatah Singh, the last chief of Thánesar. Jínd is still an independent chief; but the Nawáb of Kunjpurá, the Sardár of Shámgarh and the Mandals of Karnál, are simple *jágírdárs*, and exercise no sort of authority as of right within their domains.

Early history of Kaithal.

The district of Kaithal in the time of Muhammad Sháh was a *parganah* consisting of 13 *tappás*. In A. D. 1733, this *parganah* was held from the Dehli Government in *jágír* or farm by one Kamr-ul-din Khán, a Biloch by tribe, who held some important office in the Government; this man was slain in the massacre of Dehli by Nádir Sháh in A. D. 1738. Azím-ulla-Khán, of the same family, seeing the declining state of the Government, endeavoured to shake off his allegiance and assume independence. He gave out the different villages in farm and returned with a force to collect his revenues. Ikhtiár Khán, an Afghán, was one of the principal *zamíndárs* with whom he engaged, and who sometimes paid but as frequently resisted and appropriated the revenues. Matters continued in this state till A. D. 1751. Ináyat Khán, Afghán, a *zamíndár* of some influence, persuaded the people to join him in resisting the demands of the Bilochís, raised a considerable force for the purpose, and enjoyed the revenues himself. Matters continued in this state till 1755;—the successes of the Bilochís and Afgháns fluctuating, sometimes one, sometimes the other being successful as each could collect followers,—when in the year last mentioned the Bilochís sent a Saiyad (name not known) who encamped at Hábri and sent for the Afghán chief: Ináyat Khán, suspecting treachery, sent his brother Ghulám Bhik in his stead, and him the Saiyad put to death. Ináyat Khán fled, and the Saiyad obtained easy possession of Kaithal, where he remained three months collecting revenue; but directly his back was turned, Ináyat Khán again stepped in and assumed possession.

In A. D. 1756 Tahawwur Khán, brother of Kamr-ul-dín, came with a force to claim his late brother's *jágír*. He was opposed by Ináyat Khán, who was beaten and fled, but a short time after during

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the same year, having collected a force, the latter made a night attack upon the city of Kaithal and obtained entrance at the Síwan gate: a fight ensued in the streets of the town, in which Tahawwur Khán's brother-in-law, who commanded, was killed and his army dispersed. The Afgháns or attacking force consisted of only 500 men, while that of the defeated Bilochís amounted to 1,000. Thus ended the Biloch possession; rule it cannot be called. They were never able to make head again, and Ináyat Khán, a *zamíndár*, was left in undisturbed possession, collecting the revenues and paying tribute to no one. He was not, however, destined to a long or prosperous rule, for he fell a victim to treachery in A. D. 1760. He had long been at enmity with one Azím Khán Mandal, of Samána, who had taken possession of Bhorak, a village in the *parganah* and 5 miles north of Pehoa. The Mandal invited him to the Khorám Mela on pretence of making up the quarrel, and there murdered him; but had soon to repent his treachery, for Bhík Bakhsh and Niámat Khán, brothers of his victim, collected a force, marched against Bhorak, took it, and put the Mandal to death. The two brothers continued in possession, it cannot be called Government, of Kaithal till A.D. 1767; when Bháí Desú Singh, advancing from Bhochoki, encamped at Kutána, where he collected further force and munitions of war, and then marched against Kaithal, which succumbed after but a weak resistance; and thus commenced the Sikh rule.

Bhík Bakhsh died in exile, but his brother Niámat Khán was treated liberally by the conqueror, who conferred upon him several villages in *jágír*;—one of which, *viz.*, Ujána, his descendants retain to the present day, but without any proprietary right in the village. Thus in the short space of 29 years, *viz.*, from 1738 to 1767, Kaithal had changed rulers no less than four times.

		Commenced.	Ended.
1.	Rule of Kings of Dehli ...	. ...	A.D. 1738
2.	Biloch rule ...	1738 ...	1756
3.	Afghán rule ...	1756 ...	1767
4.	Sikh rule ...	1767 ...	1843
5.	British Government ...	1843 ...	...

The Sikh Bháís of Kaithal.

The district of Kaithal, as it was constituted when it passed by escheat into the hands of the British Government, was acquired by Bháí Desú Singh, the 4th son of Bháí Gurbakhsh Singh, himself a descendant from a Rájpút *zamíndár* of Jaisalmer. He inherited a few villages in Kulárán, and from this small beginning extended his possessions, first by the capture of Kaithal in *Sambat* 1824 (A. D. 1767), and then by the conquest of Chíka and Pehoa. Bháí Desú Singh appears to have been a man of debauched character, and few works of art are attributed to him. He built the original fort of Kaithal and several smaller forts about the district, and brought a water-course from Mángana to Kaithal, and made numerous *kachcha* dams along the Suruswatí river. He had four wives, *viz.*, Rúpkaur, mother of Bahál Singh; Rámkaur, mother of Khushhál Singh; Máí Bholí, no issue; Máí Bhágan, mother of Lál Singh. Jugta Singh Mahál became his agent and adviser. He died in 1835-36 *Sambat*, having ruled 11 or 12 years, a rule which was not very oppressive, or perhaps time has softened off the edges. He amassed about 10 *lakhs* of rupees, and the knowledge of this is said so to have excited the

envy of the *Rájás of Jínd and Patiálá* that they caused the agents of the Dehli ruler to entice the Bháí to Dehli under pretence of having a *jágír* conferred upon him. On his arrival at the seat of Government, Desú Singh was confined, and only released on the promise of paying 8 *lakhs* of rupees, 6 of which he paid and gave his son Lál Singh as security for the remainder.

Of his three sons, Khushhál Singh, having died in childhood, is never mentioned. Bahál Singh succeeded to the rule, his elder brother being under restraint at Dehli; but Lál Singh's mother having obtained his release on payment of Rs. 40,000, he shortly returned and assumed the Government, driving his brother, who strongly opposed him to Kuláran. Thence Bahál Singh acquired Budláda, but was immediately put to death by hired assassins instigated by his worthy brother. Lál Singh resided chiefly at Kaithal. He had four wives, *viz.*, Saddákaur, no issue; Rattankaur, no issue; Sáhibkaur, mother of Partáb Singh and Ude Singh; Mánkaur, no issue. He drank deep, but appears to have been held in some respect by the lesser chiefs, who submitted frequently to his arbitration. He did good service to Perron in defeating George Thomas, and was rewarded in consequence by the gift of *parganah* Súlar on payment of a *nazarána* of Rs. 60,000, little better than one year's revenue. His services were acknowledged by Lord Lake and rewarded by a handsome *jágír*, Gohána, in which, however, he had only a life interest. He added to the fort of Kaithal, indeed may almost be said to have built it, for it was nothing but a mud building before. Its picturesque towers are now visible for a long distance. He ruled for 33 years, dying in *Sambat* 1875 at the age of 49. He left behind him the character of a tyrant. On his death, his sons being 3 and 4 years old respectively, the Government was carried on in the name of the eldest Partáb Singh, under the regency of the mother; but the boy only lived to the age of 12 years, and died of small-pox in *Sambat* 1880. Bháí Ude Singh, still a boy, succeeded under the regency of the mother, who even in after life had great influence over him; indeed she was more the ruler than he was, and to this perhaps may be attributed his being at variance with the neighbouring chiefs and at constant issue with his own villagers. He resided chiefly at Kaithal but frequently at Pehoa, and both places bear witness to his taste for architecture. He enlarged and beautified the fort of Kaithal, built the palace after the model of the house of Sir David Ochterlony at Karnál only on a more imposing scale, and near it a bridge over the Bidkiár Tírath, remarkable for nothing but want of breadth and its level surface. At Pehoa the garden house is a bijou, and does great credit to the taste of the architect, but was left incomplete on his death. He built a house and laid out a garden likewise at Kankal near Hardwár. A noble masonry *band* that he erected across the Suruswatí, which threw water down a cut irrigating numerous villages for 16 miles to Kaithal, was destroyed by the British authorities since the escheat. He did more for the district in works of art than any of his predecessors, but in private he was debauched, in public a tyrant. He was bedridden for some years of his later life, and died at Kaithal on the 14th of March 1843 A. D. when the state lapsed, failing heirs, to the

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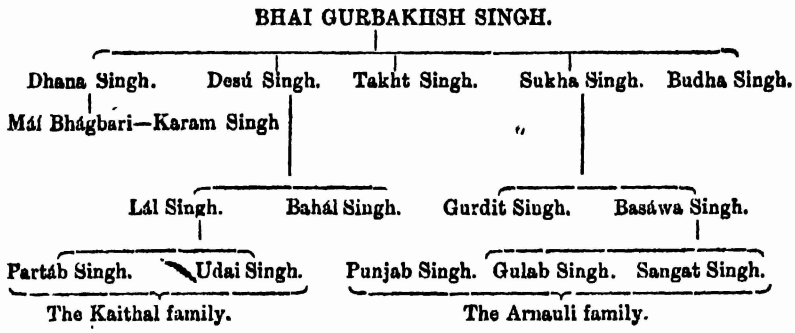
The Sikh Bháís of Kaithal.

protecting power. He had two wives—Súrajkaur, daughter of the Rájá of Balabgarh, who was accomplished in Gurmukhi lore, and died shortly after the state lapsed; and Mahtábkaur, daughter of a *zamìndàr* of Shamspur, who lived for some years and had a handsome provision allowed her by Government. The opposition of the Queen mother, on the state escheating, to the little escort with Mr. Greathed, the Political Officer, her subsequent flight, carrying off treasure, and her capture, are all on record, and together with the correspondence on the subject form a volume alone. She died at Pehoa, never having to the very last moment given up her hope of being confirmed in the government of Kaithal. The genealogical tree of the family is as follows:—



On the death of Bháí Ude Singh without issue the greater part of the estates lapsed, only that portion of it being excepted which had been acquired by Gurbakhsh Singh, the founder of the family. To this the collaterals of the Arnauli branch were permitted to succeed. The Bháís of Arnauli came under the reforms of 1849, and ceased in that year to exercise any administrative functions. The present representatives of the family are Bháí Jasmer Singh who resides at Arnauli, in the northern portion of the Kaithal *tahsìl*, and Bháí Anokh Singh who resides at Budláda or sometimes at Sidhowal near Patiálá. They are Honorary Magistrates within the limits of their *jàgìr*.

Early history of Ládwá and Thánesar.

The possessions of the Rájás of Ládwá and the *sardárs* of Thánesar were originally a part of the *Sùbah* of Dehli. The present *talùqàs* of Narwána and Jínd were *parganahs* in the *Sarkàr* of Hissár. Safídon was a *parganah* in the *Sarkàr* of Dehli. Indrí was in the *Sarkàr* of Saháranpur, which extended to the Jamná, which in former day ran under the present western high bank of the canal. Thánesar and Sháhábád were royal *parganahs* in the *Sarkàr* of Sirhind, as were Samána and Sunám. When the Dehli empire was tottering to its fall, the Sikhs in and about the year 1763 A.D., having defeated the royal forces, made themselves masters of this part of the country. Captain Cunningham, at page 114 of his History of the Sikhs, states that these people are made up of 12 *misls* or confederacies. It appears that the acknowledged Sikh *misls* are but 8, and that the complement of 12 was made up by four *dehras* as follows:—

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Early history of Ládwá and Thánesar.

No.	Name of caste.	Caste.	Presumed strength	Names of Leaders.
1	Bhangi, *a*	Jats	10,800	Harri Singh, Jhanda Singh, Ganda Singh, Játs.
2	Nisháníás, *b*	Khatris, and Rangretas or sweepers	12,000	Saudha Singh, Sangat Singh, Mohna Singh.
3	Rámgaríás, *c*	Unknown	8,000	Jassa Singh, the carpenter
4	Ahlúwálias, *d*	Kaláls	3,000	Jassa Singh, Kalál.
5	Ghaníás, *e*	Unknown	8,000	Jassa Singh.
6	Faizulapuríás, *f*	Játs	2,500	Kawan Singh and Khushhál Singh.
7	Súkar Chakiás, *g*	Játs	2,500	Kharak Singh.
8	Dallewálias, *h*	Játs	7,500	Tara Singh.
	The Dehras are as follows			
9	Shahíds, *i*	Játs	2,000	Gurbaksh Singh.
10	Nagaríás, *j*	Játs	2,000	Krorá Singh, Játs.
11	Panjgarhiás, *k*, or Krorá Singhiás	Játs	1,200	
12	Phúlkiáns, *l*	Játs	5,000	Ala Singh, Ját.

a So called from the fondness of the members for *bhang*, an intoxicating drug produced from the hemp plant.
b From Nishán, a standard which they followed.
c From Rámgarh, a fort in Amritsar
d From Aloh, the village of Jassa Singh *kalál*. *Kalal* is a spirit distiller.
e From Ghina, a village near Lahore, of Sardár Jassa Singh, Khushhál Singh.
f From Dallí, the village of Tára Singh Sardár
g From Faizulpur near Amritsar, the village of Sardárs Kawar Singh, &c.
h From Súkar Chak, the village of Sardár Charat Singh.
i Shahid means a martyr.
j From Nagaria, a tract of country near Multán. This is probably the confederacy which Cunningham calls the Makias, No 5
k Panjgarhiás from the village of their first chief. Krorá Singhiás from the name of their third leader.
l From Phúl the common ancestor of the great houses of this confederacy.

The following statement shows the names of every Sikh estate properly placed under the *misl* to which his ancestors belonged when they came as the conquerors into this country:—

Name of *Misl*.	Name of *Ilàqa*.	Name of *Misl*.	Name of *Ilàqa*
Dallewália	Bejrál	Bhangi	Búria.
	Chápur		Jagádhri.
	Dhúmsi		Diálgarh.
	Gurheh	Ahlúwália	Barwálians.
	Jamráyán	Phúlkián	Kaithal.
	Haibatpur		Arnauli.
	Khera Chúnia		Nábha.
	Ládwá		Jínd
	Sikandra		Patiálá
	Sikri		Nílúkhágri.
	Shámgarh	Nishánia	Sháhábád.
	Thánesar	Shahíd	Taráori
Krorá Singhiás	Chalaundi		Sháhzádpur.
	Dhanaura		Thaslia.
	Rádaur		Thol.
	Ulláhar		
	Zenpur		

The Ládwá Rájas.

The greatest conquerors among the Krorá Singhián were Sardars Sáhib Singh and Gurdit Singh, who mastered Bahen and Ládwá, Shámgarh, Karnál and some villages of Panípat. They

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The Ládwá Rájás.

came from a village, Bain Bole, of Fattiábád in the Mánjha, and established themselves at Bahen and Ládwá. After the defeat of the Afgháns at Sirhind in 1763 A.D. they lost Pánípat and Karnál years ago. Sáhib Síngh, who was afterwards killed in action near Karnál, bestowed Shámgarh on his brother-in-law Kirpál Singh, who accompanied the confederacy in the conquest. Gurdit Singh was succeeded by his son Ajít Singh, who obtained the title of Rája for building a bridge over the Suruswatí at Thánesar, proved treacherous to the British at the breaking out of the first Sikh war, was imprisoned at Allahabad, destroyed his keeper, and after numerous wanderings died in Kashmír. His sons were kept under surveillance at Saháranpur. Their descendants are still in possession of Ládwá and Shámgarh.

The Kháns of Kunjpura.

The founder of the Kunjpura family was a Pathán named Nijábat Khán. His ancestor came from Kandahár, and founded a village in Sindh called Ghurghusht, which he held in *jágír*. Having left Sindh in consequence of family quarrels, Nijábat Khán with his pupil Mahmúd Khán came to seek his fortune in Hindustán. He entered the service of Munná Khán, a Vazír of Lahore, and in two years was a commander of several horsemen, when he came down to Vazír Khwája Nassíruldín of Rádaur. Here he became a *Risáldár*, sent for his family, and fixed his head-quarters at Qasbah Taráorí; one of the *zamíndárs* of the villages of Bidaulí who had quarrelled with his relations, begged the assistance of his soldiers and gave him the *biswadári* of Kunjpura which was then a swamp or nearly so. Nijábat Khán got some leases of the surrounding villages from the *Tahsíldár* of Bidaulí, and gave them to Mahmúd Khán, who wanted to build at Kunjpura. The Rájpúts destroyed all he did. Nijábat Khán brought his troops over from Taráorí and settled them at Kunjpura, and from that time a deadly enmity sprung up between the Rájpúts and Patháns. A *pakka* fort was built at Kunjpura after a hard fight. The fort was first called Nijábatnagar. The cruelty of the Afgháns having reached the ears of the *Chakladár* of Saháranpur he sent for Nijábat Khán; he refused to go, a force was sent, and the *Chakladár* Izzat Khán was killed by one of Nijábat Khán's relations. The power of the Afgháns increased, and Nijábat Khán made himself master of other lands. The King of Dehli, hearing of the death of his *Chakladár*, sent for Nijábat Khán through Múlráj of Pánípat, who enticed him to Pánípat, and sent him a prisoner to Dehli, where he remained for a year. Khwája Jáfir was sent to Kunjpura but was put to death by the servants of Nijábat Khán. Nawáb Bángash of Furrukhábád interceded for Nijábat Khán, and he was released; and his estate Nijábatnagar, and other villages in number as per margin, were granted him in *jágír* on condition of his restraining the Játs and Rájpúts, who were taking advantage of the weak state of the empire to give trouble and commit excesses.

Parganah.	No. OF VILLAGES.
Bidauli ...	5, including Nijábatnagar or Kunjpura
Karnál ...	6
Thánesar ...	20
Sháhábád ...	24
Banú ..	3
Azimábád ...	45
Indrí ...	45
Unknown ...	2
	150, valued at 5 or 6 *lakhs* of rupees.

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The Kháns of Kunjpura.

On the incursion of Nádir Sháh, Nijábat Khán supplied him with provisions and tendered his obeisance; he became a *Risáldár* of 1,000 *sawars*. The Mahrattá army under Jhúnku Bháo plundered Kunjpura, when Nijábat Khán was wounded, taken prisoner, and died; some accounts say was slain, aged 75, at Pánípat, having lived in Kunjpura for 30 years. Ahmad Sháh repulsed the Mahrattás in 1174 Hijri, A. D. 1758, and established Dallál Khán, Nijábat Khán's eldest son, at Kunjpura, having first enriched him with spoils from the Mahrattás. Dallál Khán enjoyed his possession for 25 years, died aged 60 years in 1782 A. D., and was succeeded by his eldest son Gulsher Khán. Of the descendants of the brothers of Gulsher Khán, one is a *Risáldár*, another lives in Pánípat. Three others, Nizám 'Ali Khán, Tafazul Husen Khán, and Muhammad Husen Khán, have lands in perpetuity. Gulsher Khán ruled for twenty-two years. He died on the 15th of May 1804, was succeeded by his eldest son Rahmat Khán; several villages were given to his own brother Muhayuldín Khán in maintenance, but on the death of Muhayuldín, the number of villages was reduced to one, the fine estate of Biána, and some land in Kunjpura, which is held by his son Muhammad Yár Khán. Rahmat Khán had three half-brothers, who received a maintenance; they are dead, but the maintenance has been continued to their sons.

Rahmat died in 1821, and was succeeded by his eldest son, Jang Bahádur Khán, who died childless 7 years after, and was succeeded by his brother Muhammad Ali Khán, the present Nawáb. Ever since the time of Muhayuldín Khán the family has been cut up by private quarrels. Ghulám Ali Khán during his life-time kept all parties in good humour, but on his death all the relations turned against the present Nawáb. This family in former times had, besides their own family quarrels, plentiful occupation for their swords with their Sikh neighbours, particularly with the Thánesar Sardárs, whose possessions were next to those of Kunjpura. Several exchanges of villages have taken place from time to time among these people, and Kunjpura has still villages in share with Kheri, Chúrni and Shámgarh, besides land in Ghír, which is now British, but formerly formed part of the Thánesar *iláqa*. This land has been released by Government in perpetuity. The Kunjpura estate now consists of thirty-six whole and shared villages.

The Sardárs of Thánesar.

The founder of the Thánesar chiefship was Mith Singh. Captain Larkins states in his report on the Summary Settlement of Thánesar that Mith Singh is of a family of Nidga Rájpúts of the village of Ajnála, *talúqa* Panchgraián in the Mánjha; but Captain Abbott states that he was a Játt, that his home was at Bhatti near Sarhála in the Mánjha. He embraced the Sikh religion at Amritsar from the hand of Gurdiál Singh, and entered the service of Tára Singh. He was a fine young man, and being determined to lead, he deserted with a party from Tára Singh, mastered several villages in the Jalandhar Doáb, and came to this part of the country with the Dallewália *misl* in company with his nephews Bhág Singh and Bhanga Singh. The royal fort at Thánesar built by the Marráls was held by the troops of the Bháis of Kaithal under the command of Desú Singh; Bhág Singh and Bhanga Singh waited their opportunity in the neighbourhood, while Mith Singh advanced with the conquer-

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The Sardars of Thánesar.

ing Sikhs, and was killed at Meerut. Bhanga Singh and Bhág Singh, with the assistance of the Ládwá Sardárs and Karam Singh Nirmala of Sháhábád, after one failure, made a successful night attack and possessed themselves of the fort of Thánesar. Shortly after this Bháí Desú Singh died, leaving two young children, from whom the Dallewálias wrested the country which is now called Thánesar, including the *talúqas* Bhori and Buláhi. Bhanga Singh and Bhág Singh divided the country, the former getting three-fifths, the latter two-fifths. Bhanga Singh seized Ghiásuldínnagar, east of the Jamná, which the Mahrattá Bháo Rána took from him and gave him *parganah* Bidauli in exchange. Bhanga Singh, who is described by Captain Cunningham as the "savage master of Thánesar," allied himself to the British about 1803. He was the greatest robber among the little chiefs and the only chief feared by Ranjít Singh. Lord Lake gave him some other territory east of the Jamná, in exchange for Bidauli, and it was held by him during his life. In 1806, with the assistance of the Ládwá Sardár Gurdit Singh, the Dallewálias wrested Dhowa and Singhori from the Landewália *misl*, and Dhowa was assigned as Bhanga Singh's share of the conquered territory. It was taken from him and restored to the Landah *misl* by Ranjít Singh; but when these territories came under British protection it was retransferred to Bhanga Singh.

Bhanga Singh died in 1815, leaving a son Fattah Singh and a daughter by his wedded wife, and a son Sáhib Singh by a concubine. The daughter, Karamkaur, married Karam Singh, the Rája of Patiálá, and six villages, as per margin,* were given as her dowry. To Sáhib Singh a *jágír* of nine-and-half villages as per margin† was allotted, and is now held by his son Bishn Singh, who pays one-sixth of the revenue in lieu of service for his life. On his death his heir or heirs for one generation are to hold the estate liable to payment of half the revenue. The remainder of Bhanga Singh's estate descended to his son Fattah Singh, who died in 1819, leaving a mother Máí Jíán and two young widows. Máí Jíán managed the estate till 1830 and died in 1836. Ratankaur, one of the widows, died in 1844, leaving the other widow Chandkaur in possession of the estate, which lapsed on her death in 1850, and was summarily settled by Captain Larkins. Bhág Singh, the partowner with Bhanga Singh, died in 1791, leaving four sons as per margin, three of whom died childless. The estate descended to Jamáyat Singh, the son of the youngest brother Baj Singh, who also died childless in 1832, when the estate lapsed and was settled by Captain Murray.

* Dhaurála	Rájpura.
Barwa.	Bhúji.
Chaugánwán.	Umrpur.

† Jhámba.	Bíbípur.
Pújan.	Fázilpur.
Imbli.	Bishangarh.
Tigri.	½ of Chánd
Chaunra	Samand.

Mahtáb Singh.
Guláb Singh.
Panjáb Singh.
Baj Singh.

Condition of the country at annexation.

The state of the Dehli territory when it came to us in 1803 has already been described at page 35. The Sikh States between our territory and the Satlej were protected by our mantle from danger from without. But the condition of Kaithal, which was nearest our border, and therefore presumably most influenced by our influence and example, when it lapsed to us in 1843, may be gathered from the

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Condition of the country at annexation.

following extracts from Sir Henry Lawrence's report in his Summary Settlement of the tract:—

"The old state of the country may be gathered from the fact of more than a hundred men having been killed and wounded in a single boundary dispute, not above four years ago, between two villages of Kathána and Jínd; from the village of Paí, within a march of Kaithal, and for 40 years an integral part of the territory, having within the last ten years, withstood the army of the Bháí for 8 months; and from the inhabitants of Chátar in Kathána having never allowed the Sikh officers to enter their villages, being permitted to pay revenue instalments at the *thána* of Kathána. In fact, the whole system was one of the expedients, sparing the strong, and squeezing the weak. I therefore extended an amnesty as far as possible, taking security from some notorious offenders, and keeping a few others in prison for want of bail. From April to September, 85 persons were convicted and sentenced for thefts and petty robberies. Not a case of gang robbery or wholesale cattle-lifting happened after the first week of our rule. One murder took place, that of a jail *barkandáz*, by three prisoners, who were made over to the sessions. On the 1st October there were in jail 141, on bail 25,—a number that may not be considered extraordinary, when it is recollected, not only by what a lawless neighbourhood Kaithal is bordered, but that at least a hundred criminals were let loose upon the country when the outbreak occurred; and that robbery and outrage were scarcely discountenanced by the old Government, and actually recognised by many of the officials. Within a week after the introduction of British rule at Kaithal, there occurred, as already noticed, two flagrant instances of wholesale cattle-lifting, in which more than a hundred men were concerned: most of the culprits were apprehended, and no such instances have since happened, although, under the former Government, they were of daily occurrence. I have taken security bonds from all villages of bad or doubtful character, to pay eleven-fold for all stolen property tracked to their lands, and that the headmen shall be responsible for the acts of all residing within their bounds. One of my first measures was to order all fire-arms to be delivered up at the respective *thánas*, and to forbid more than one sword to be retained for ten houses. To this act I mainly attribute the peace and quiet of the country during the last six months: for although I do not suppose that all the arms were actually given up, the order made the heads of villages responsible for their not being used; and I have now the pleasure of thinking that almost all the boundaries in the district have been settled, not only without any loss of life, but, as far as I am aware, without the occurrence of a single affray in a country where it has not been unusual for one village to lose twenty men in a boundary dispute.

"Such was the desolation of portions of the district that, looking from the tops of the village towers, I could often see miles and miles of good land without a single acre of cultivation. * * The people were accustomed to pay no revenue except upon absolute compulsion. * * Kaithal was one year ago as lawless a tract of country as any in India; but something I hope has been effected for its improvement. * * I may instance the Játt village of Chátar, which was formerly the very head-quarters of opposition to authority, and is said never to have admitted a Sikh within its quickset hedge. It was reckoned able to turn out a thousand match-locks, and the four wards of the village were barricaded against one another. So bad a name had the place that when I visited it in April I was attended by a hundred troopers and a company of infantry: when I went there in August I was accompanied by a single horseman, and found

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the village one sheet of cultivation. * * As I was riding along the border with Rájá Sarúp Singh we heard and saw the husbandmen singing as they drove their cattle through the saturated fields. The Rájá smiled and called my attention to their air of security, observing that if they had been so employed last year the chances were that their cattle would have been carried off by some foraging party."

Five years later Captain Abbott, Settlement Officer, described the Sikh rule in the Protected States on the Ambálá and Karnál border, which had just then been confiscated, in the following words :—

"The arm of the law, if law it can be called was paralysed; no protection was given to property; indeed the State set the example, and plundered without remorse. Cattle at grazing were attended by bodies of armed men; wars and bloodshed were frequent and common; and want of security caused the villagers to plunder in self-defence. Occasionally attempts were made to extend cultivation by cuts from the streams, but these required a small dam across the channel which it was necessary to protect by a tower; indeed a well could not be worked without a tower in which the wood-work and bullocks were deposited during the night, or on the approach of plunderers. The powerful villages only paid so much revenue as they found it convenient to do. Few crimes were acknowledged, and such as were, were punished by fine with imprisonment until payment. Open evidence was unnecessary to conviction, the secret information of an informer was ample, and the fact of possessing the wherewithal more than conclusive. Murder was punishable by fine; and cheating, forgery and unnatural offences were considered good jokes."

The mutiny.

When the mutiny broke out in 1857, Mr. Macwhirter, the Magistrate of Pánípat, was at Dehli, and was killed there. Mr. Richardes, the Uncovenanted Deputy Collector, immediately took over charge; and though every other European fled, and the fugitives from Dehli warned him that the rebel cavalry were following on their steps, and though "burning and pillage reached to his very doors," he bravely stayed at his post, kept more or less order in the district, was active in collecting supplies for the troops passing through and for the army besieging Dehli, and succeeded in collecting more than seven *lakhs* of revenue, which he sent to the army. For these services he was appointed Deputy Commissioner of the 1st class. Directly the news of the outbreak reached Jínd, the Rájá collected his troops and proceeded by forced marches to Karnál, which he reached on the 18th of May. He restored order in the town and its vicinity, marched down the grand trunk road in advance of the British columns, turned his forces on Pánípat, recovered Simbhálka which had been seized by the rebels, and kept the road open between Karnál and Dehli. The Mahárája of Patiálá was no less prompt. He held Karnál, Thánesar and Ambálá in our behalf, and kept the road open from Karnál to Philaur. The Chauháns of the Nardak behaved well. They raised a regiment of cavalry, and they also supplied a body of 250 *chaukidárs* for the protection of the city and civil lines where our ordnance magazine was established. The Mandal Nawáb of Karnál, Ahmad Alí Khán, from the very first placed himself and his resources unreservedly at our disposal. For these services his quit-rent of Rs. 5,000 a year was released to him and his heirs male in perpetuity; and he was presented with a *khilat* of Rs. 10,000 in open *darbár*.

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Political History.

The mutiny.

In the Thánesar district Captain McNeile was Deputy Commissioner. His principal difficulty arose from the presence of a company of the mutinous 5th Native Infantry, which obliged him to have always at hand part of the Patiálá force to keep them in check. The disarming of this company on the 14th July set the Deputy Commissioner at liberty, and from that time he made his head-quarters at Karnál. Mr. Levien, the Assistant Commissioner, was detached at Sháhábád, and Lieutenant Parsons was sent from time to time to reduce turbulent villages, especially towards Kaithal, or to watch the fords and ferries of the river Jamná. In anticipation of a visit from the Dehli mutineers, Captain McNeile had, at the first, destroyed the stamp paper, and soon afterwards sent his treasure to Ambálá; while the jail was fortified and the *jágírdárs* called out. At one time it was rumoured that the Ránghars from Hissár purposed to rescue their fellow-clansmen from the Thánesar jail, and the 31st May was the date fixed upon for the attack. Every preparation was made to repel it, but it did not take place. The Ránghar prisoners were immediately afterwards secretly removed to Ambálá to be beyond hope of rescue. On June 9th the Rájá of Patiálá was compelled to draw off his forces from Thánesar in order to protect his own capital, which was in some peril from the Jalandhar mutineers; but as soon as he learnt that they had passed by, his troops were sent back to Thánesar, much to the relief of Captain McNeile.

As was to be expected at such a time, the more turbulent spirits among the people took advantage of the temporary suspension of authority to give trouble both to Government and to their neighbours. Even in the Pánípat Bángar sixteen of the largest Játvillages in the Naultha *zail* refused to pay their revenue, drove out the Government village watchmen, joined in the disturbances in the Rohtak district, went to Dehli, whence they returned after an absence of 22 days, and threatened to attack the Collector's camp; while nineteen other large villages, mostly in the Bhálsi and Korána *zails*, rioted, burnt some Government buildings, committed various robberies and murders, and refused to pay revenue. The Gújars were, of course, not behindhand, and plundered generally about the country. All these villages were fined and punished in various ways; and *lambardárs'* allowances to the amount of Rs. 7,317, representing a revenue of Rs. 1,46,340, were confiscated. In the city of Pánípat open sedition was preached, especially in the shrine of Buáli Qalandar; and an attack upon the Collector's camp was only prevented by some Jínd troops hurrying up and turning their guns on the town. Hostages were seized, some few men hanged, and the pension of the shrine reduced from Rs. 1,950 to Rs. 1,000 a year. The *tahsíldár* of Gharaunda, a Pánípat man, had to be removed for disaffection.

If such was the behaviour of the Bángar, it may be imagined that the Nardak was not less troublesome. Some of the large villages caused much anxiety during the mutiny of 1857—notably Síwan, Asandh, Julmána, Gondar, Sálwan, Balla, Dáchaur; they had no political cause in view, but the inhabitants being Muhammadan Ránghars, a turbulent and predatory class, they broke loose in deeds of violence in general, and refused to pay the Government land revenue. Balla resisted a Regiment of Cavalry under Major Hughes, killing a native

Chapter II, B. — Political History.

The mutiny.

officer and some troopers, subsequently receiving severe punishment from the guns of the loyal Mandal Chief, Ahmad Ali of Karnál. Julmána collected a large muster of Ránghars armed with the intention of releasing the prisoners of the Thánesar jail, in which purpose it was failed. Asandh seized the Government police station in the fort at the village, and received in return severe castigation and spoliation; ultimately the general misconduct of the Kaithal and Asandh *parganahs* entailed on them a fine of 10 per cent. on the Government revenue, which, together with the revenue, was collected by the district officers at the point of the bayonet. That these villages, however, had no sympathies in common with the mutinous soldiers was evidenced from the fact of their robbing, even to a state of nudity, fugitive soldiers on their way from the Panjáb to join the rebel forces at Dehli. Hábrí, though a *Ránghar* village, was distinguished for good conduct and loyalty under the guidance of intelligent headmen. It may be said generally that the further Nardak showed extreme reluctance to give up the fugitive mutineers from Fírozpur or Jalandhar, and positively refused to pay their revenue; and a detachment with some guns under Captain McNeile marched against them. They first attacked Balla, a large and always troublesome Játt village; and "signal chastisement was inflicted in a fight in which scarcely a village in the higher Nardak but had one or two killed or wounded." The Balla people presently somewhat redeemed their fault by giving material assistance in coercing their neighbour Múnak. The skirmish had a very good effect upon the country-side; and when Captain McNeile marched upon Julmána, it submitted at once; while the Asandh people ran away into the jungles, and their village was bombarded and burnt, as its inhabitants had been conspicuous in their disloyalty. Heavy fines were realised from the recusant villages. The *lambardárs* of Garhi Chháju paid their revenue into the *tahsíl* without its being demanded, and were rewarded by a personal grant which the survivor Jí Rám, still enjoys. Sardára, a Játt of Palrí, aided some European fugitives from Dehli, and received a revenue-free grant of land in perpetuity. And Qalandar Ali Khán of Pánípat gave material assistance, and was rewarded by a pension. On the whole, the district suffered very little. The Government treasury and records escaped unharmed; and of a total land revenue demand of Rs. 4,70,238 for 1857-58, only Rs. 9,464 was not collected, while the canal irrigation for the autumn crops of 1857 was only three per cent. less than the corresponding irrigation of 1856. In 1858 the numerous village forts which had been built in the times of the Sikhs were dismantled.

Development since annexation.

Some conception of the development of the district since it came into our hands may be gathered from Table No. II, which gives some of the leading statistics for five-yearly periods, so far as they are available; while most of the other tables appended to this work give comparative figures for the last few years. In the case of table No. II it is probable that the figures are not always strictly comparable, their basis not being the same in all cases from one period to another. But the figures may be accepted as showing in general terms the nature and extent of the advance made. And indeed the advance made is not to be tested by figures only. The state of the country when it

fell into our hands has already been fully described in the preceding pages; and the contrast which that state presents with its present condition needs to be emphasized by no comments.

Chapter II, C.

Administrative History.

SECTION C.—ADMINISTRATIVE.

Constitution of the district.

The district consists of two portions, the administrative history of which was wholly distinct till the year 1862. The older portion, which has been recently settled by Mr. Ibbetson, includes the Pánípat *tahsil* and the Indrí *parganah* of the Karnál *tahsíl*; it came to us by conquest, and formed a portion of the Dehli territory, and of the Pánípat district of the North-Western Provinces. The other portion, consisting of the remainder of the district, which is now being settled by Mr. Douie, came to us by lapse or forefeiture from the protected Sikh chiefs who held it, and formed part of the Thánesar district of the Cis-Satlej division of the Panjáb. The administrative history of the two is, therefore, entirely distinct, and must be treated separately for each. The land revenue administration of the district is not noticed in this section as it is fully discussed in Chapter V, Section B.

Administrative machinery. Dehli territory.

The provinces acquired by the Treaty of Sirji Anjangam were known as the conquered provinces, and with the ceded provinces formed a sub-division of the Bengal Presidency, to which the Bengal Regulations were extended by Regulation VIII of 1805. But Sec. 4 of that Regulation expressly excluded from the operation of the Regulations, past and future, the tract afterwards known as the Dehli territory, which roughly coincided with the present districts of Gurgáon, Dehli, Rohtak, Sirsa and Hissár, and the Pánípat *tahsíl* and Karnál *parganah* of this district; and, in fact, consisted of the territory transferred from the North-West Provinces to the Panjáb in 1858. The Dehli territory thus constituted was at first placed under a Resident at Dehli, aided by assistants who had no formally defined charges. But as a fact Mr. William Fraser, one of the Assistants, exercised almost absolute authority in these parts, checked only by an unexercised right of appeal to the Resident. A British *Amil* of the name of Rái Sada Sukh was appointed at Karnál. In 1819 the territory was divided into northern, southern and central divisions, of which the northern consisted of Karnál, Pánípat, Ganaur, Gohána, Rohtak, Sunpat and Mandauti, and was placed in charge of a Principal Assistant. At the same time a Civil Commissioner was appointed at Dehli, who exercised civil, criminal and revenue functions in subordination to the Resident. In 1820 the Civil Commissioner was abolished, and a Deputy Superintendent appointed in his place, who enjoyed no independent authority, but vicariously exercised the power of the Resident, as his Assistant, and in his courts. In 1822 the Bengal Presidency was divided, the ceded and conquered provinces forming the western province; and a Board of Commissioners of Revenue and Circuit was appointed for these provinces, with its head-quarters at Dehli. The Resident lost his Deputy Superintendent, but became the Chief Commissioner on the Board, and continued to exercise independent political functions as Agent to the Governor-

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Administrative machinery Dehli territory.

General. In 1824 the divisions of the Dehli territory were split up into the districts of Pánípat, Rohtak, Hánsí, Riwárí and Dehli. The Pánípat district included Karnál, Pánípat and Sunpat, and the remainder of the northern division went to Rohtak. In the same year the Dehli territory was removed from the control of the Board of Revenue collectively, and placed immediately under the Resident and Chief Commissioner, who, however, continued to avail himself of the services of the Board in the transaction of all revenue business. In 1829 Divisional Commissioners of Revenue and Circuit were appointed throughout the Presidency, and the Dehli Commissioners transacted all business in subordination to the Resident.

In 1832 the office of Resident and Chief Commissioner was abolished, a Political Agent to the Governor-General taking his place; and Regulation V of 1832 annexed the Dehli territory to the jurisdiction of the Sadr Board and Courts of Justice at Allahábád, directed that officials should conform to the spirit of the Regulations in the transaction of business, and empowered the Supreme Government to extend any part of the Regulations to that territory. It does not appear that any Regulations were ever so formally extended; but from this date they were practically in force throughout the territory. From that date, too, the Principal Assistant changed his title to that of Magistrate and Collector. In 1835 the Agra Subdivision of the Presidency was erected into a Lieutenant-Governorship, under the name of the North-Western Provinces. In 1841 the Rohtak district was broken up, and *parganah* Gohána added to Pánípat; but the alteration was shortly afterwards cancelled, and in 1857, just before the Mutiny, *tahsìl* Sunpat was transferred to Dehli. In 1858 the Dehli territory lying on the right bank of the Jamná was transferred from the North-Western Provinces to the Panjáb by Government of India Order No. 9 of 9th February, and Act XXXVIII of 1858 repealed Regulation V of 1832, quoted above.

Administrative subdivisions. Dehli territory.

As already noted, every few villages that were held in separate *jágìr* were often called a *parganah*, though the individual villages might be miles apart; and the same village was often quoted quite indifferently as being in one or other of two different *parganahs*. In fact, there were two concurrent systems of *parganahs*, one based upon locality, and the other upon the assignment of the land revenue. In 1806 *parganah* Karnál included 218 villages, and extended to Taráorí. Of these, 14 belonged to the Taráorí Sardár, 25 had long been held by Kunjpura, and 5 by Jínd. Of the remaining 174 villages, we gave 7 to the Kunjpura Nawáb for life, and 158 to the Mandals. Of these 158 villages many were mere hamlets, only 63 being separately assessed to Government revenue; and only 93 separate villages are now recognised. These constituted *parganah* Karnál from 1806 to 1807. The remaining 9 villages, known as the nine *mazrahs* of Karnál, were wrongfully held by the Sikhs; they were resumed in 1816, and though lying to the north of Karnál, were included in the Pánípat *parganah* till 1851.

In the remainder of the present Karnál, and in the Pánípat *tahsìl*, the old division into *parganahs* Pánípat, Sunpat and Ganaur was still followed in the *kànùngo's* records. Some Jínd villages were added to Pánípat in 1816, some Sunpat villages in 1822, and some

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Administrative subdivisions. Dehli territory.

Ganaur villages in 1836. The Bángar villages were generally known as *parganah* Pánípat, and the Khádar villages indifferently as *parganah* Barsat or Chaunsat up to 1830, from which date the two divisions were known as Pánípat Bángar and Pánípat Khádar. Besides these, we find in the earlier papers mention of *parganahs* Jaurási, Simbhálka, Faríd pur and Balla, which were included in the above, and the limits of which cannot be fixed. The boundary between the Khádar and Bángar *parganahs* corresponded very nearly with that between the present assessment circles of the same names.

There was originally only one *tahsíl* at Pánípat; but in 1823, by which date the greater part of the *jágír* land had been resumed, a separate *tahsíl* was formed at Barsat for the Khádar villages, the Mandal tract being excluded altogether. There was also a *tahsíl* of Ganaur, and one of Sunpat. In 1829 the Khádar *tahsíl* was transferred from Barsat to Pánípat, the two being distinguished as Pánípat Bángar and Khádar. In 1835-36 the boundary between Sunpat and Pánípat took its present shape, when Ganaur was absorbed into Sunpat Khádar. In 1851, after the Settlement of the Mandal villages, the territory was divided, as at present, into Karnál and Pánípat, with *tahsíls* at Pánípat and Gharaunda; and Amritpur and Kairwálí were received from the Thánesar district in exchange for the nine *mazrahs* of Karnál which had been transferred to it. In 1854 the head-quarters of the district were moved to Karnál; in 1862 *tahsíl* Kaithal and *parganah* Indrí were added to the district; and in 1868 the *tahsíl* was moved from Gharaunda to Karnál.

Thánesar district.

The northern portion of the district was in 1803 in the hands of different Sikh chiefs, but lapsed in the course of time piecemeal to the English Government.* The States, parts of which are included in this district, are those of Kaithal, Thánesar and Ládwá. Kaithal lapsed in 1849, Thánesar in 1832 and 1850, and Ládwá was confiscated in 1846. In 1849 these were formed into a district of the Cis-Satlej States division of the Panjáb, having its head-quarters at Thánesar. In 1862, after the transfer of the Dehli territory to the Panjáb, the Thánesar district was broken up and distributed between the districts of Karnál and Ambálá. The *parganahs* of Gúla, Pehowa, Kaithal, Indrí and part of Thánesar, fell to this district, the remainder to Ambála; at the same time the Sunpat *parganah* was transferred to Dehli. Six villages were transferred from Muzaffernaggar District to Karnál in 1862 owing to river changes. In 1866 *tahsíl* Gúla was abolished and *parganah* Pehowa was transferred to the Ambálá district; while Chíka and Kuláran were included in the Kaithal *tahsíls*. In 1875 there were further included in the Kaithal *tahsíl* 14 villages from the Pehowa *parganah*.

District officers.

Below is a list of the officers who have held immediate charge of this district, ommitting temporary appointments:—

Pánípat or Karnál district.

——	William Fraser	1824	H. H. Thomas
1819	T. T. Metcalfe	1825	Hugh Fraser
1822	Hugh Fraser	1830	Alexander Fraser
1824	George Campbell	1832	Simon Fraser

* See Gazetteer of Ambálá district

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District officers.

1834	John Lawrence	1861	Major W. R. Elliot
1836	Alexander Fraser	1863	Major Busk
1840	John Paton Gubbins	1865	Captain Parsons
1841	T. Woodcock	1870	R. W. Thomas
1842	John Lawrence	1873	Captain Harcourt
1843	John Paton Gubbins	1874	Colonel Babbage
1845	Charles Gubbins	1875	Colonel Hawes
1848	Nathaniel Prowett	1876	Colonel Millar
1854	C. R. Lindsay	1878	A. H. Benton
1856	J. P. Macwhirter	1882	Major A S. Roberts
1857	C. B. Richardes	1883	A. W. Stogdon
1858	R. P. Jenkins	1884	Major A. S. Roberts
1859	C. P. Elliot		

Thánesar district.

1843	Major Lawrence, C. B.	1846.	Major S. A. Abbott.
1843	Major Leech, C. B.		More recent information is not obtainable.
1846	Major S. A. Abbott.		
1846	G. Campbell.		

Many of these names are household words with the villagers, and are quoted daily in the course of business. The following is a glossary which will be found useful:—*Frídan* is Fraser; *Bara Frídan Sáhib* is William Fraser. *Hú Sáhib* is Hugh Fraser. *Aluk Jalandar Sáhib* is Alexander Fraser, but is also used for Alexander Skinner. *Ján Pátan Sáhib* is John Paton Gubbins. *Chálís Sháib* is Charles Gubbins. *Jírás Sáhib* is George Ross, who settled the Mandal *parganah* in 1852-56.

Early administration.

The early administration of the Dehli territory before the introduction of the regulation law presents so many curious points of contrast with that of our own day, that it will be interesting to give a brief sketch of its most salient features, more especially as in this district alone has the mutiny left untouched the records which described it. The early administration of land revenue is fully discussed in Chapter V. The cantonment of Karnál, which was not moved to Ambálá till 1842-43, was for a long time, with the exception of a small military outpost at Lúdhiáná, our frontier station. Its size may be judged of from the fact that the *monthly* pay of the troops amounted, in 1835, to a lakh-and-a-quarter of rupees. This pay was by no means always forthcoming; the Collector often had to borrow at exorbitant rates from the local money-lenders in order to meet urgent demands for arrears of several months' standing; and as late as 1840 we find the bills dishonoured for want of funds, and troops actually marching on service with some months' pay owing to them.

Criminal administration.

The tract was surrounded for the greater part of its border by "the turbulent and marauding Sikhs" of Jínd, Kaithal, Ládwá, and Shámgarh; their territories reaching to within a mile of the cantonment boundaries. Forays and affrays and wholesale raids, in which cattle were carried off by fifties and hundreds at once, were of constant occurrence. The Sikh chiefs exercising sovereign powers had exclusive jurisdiction over their own subjects even for offences committed in British territory; until in 1833 this state of things grew so intolerable that we assumed criminal and police jurisdiction in Ládwa and Shámgarh. The *jágírdárs*, whose villages were thickly sprinkled over the tract, gave almost as much trouble as our Sikh neighbours, resisting by force of arms the execution of

Chapter II, C.

Administrative History.

Criminal administration.

writs, and harassing the authorities in every possible way. The Mandals were more than once threatend with expulsion from Karnál if they did not become more amenable to authority; and their *jágír* was actually attached in 1830 on account of their contumacious conduct. The whole of the Nardak, and, till the re-opening of the canal extended cultivation, the whole of the Bángar right up to the main road from Dehli, was covered with thick *dhák* jungle which harboured bands of robbers; and criminals always found a ready refuge with our Sikh friends, from under whose wings they had to be reclaimed through the Resident at Dehli and the Superintendent of Sikh Affairs at Lúdhiáná, till the appointment of *vakíls* in 1824 simplified the procedure. The Rájpúts of the Nardak were notorious for their turbulence. Session cases were tried at Dehli; and the bodies of criminals executed were left hanging on the gibbets till 1833, when the practice was discontinued. Flogging was abolished in 1825. The track law was rigorously enforced, the village to which the thieves were traced, or even that in which the robbery took place if connivance was suspected, being made responsible for the full value of the stolen property; and though this practice was discontinued on the introduction of the Regulations in 1832, yet the Court of Directors expressly ordered its revival on the ground of the number of feudatory chiefs whose territories bordered on the tract. The police establishment was notoriously corrupt. In 1820 there were only 3,082 prisoners tried in the whole Dehli territory, of which number 2,302 were acquitted or discharged. During the five years from 1828 to 1832 the average number of cases brought into court, excluding assaults, was only 628 for the whole Pánipat district. In 1879 the corresponding number for a very little larger population was 1,750. The police duties in large towns were discharged by watchmen, while in villages the people themselves were responsible for them, and for the *jágír* holdings the police were furnished by the *jágírdárs* themselves. There were no head-quarters to the district till 1827, and the Magistrate was always moving about and carrying his jail with him, the prisoners sleeping in the open under nothing but a guard. The roads were said to be impassable for man or horse in the rains generally, and near the canal or river at all seasons; while at the best of times reports took four days to traverse the greatest length of the district. There was no road-cess, and such repairs as were made were done by prisoners. The road-cess was not imposed till 1842, and the Grand Trunk Road was not made till 1847.

Civil administration.

Civil suits were tried solely by the Sadr Ameen at Pánipat, who, after eight years of service, was discovered to refuse on principle to admit the evidence of a Hindu against a Muhammadan, though he admitted that of the latter against the former, and who justified his practice by reference to the Muhammadan law, by which he considered himself bound. The language of the courts was Persian up till 1836, no suits against Government were admitted in the courts of the Dehli territory, and no stamps were taken on petitions till, in 1830, Regulation X of 1829 was extended to these courts by proclamation. Sale of land was not permitted without the consent of the whole village, save with the express sanction of the Governor-General in Council.

Chapter II, C.

Administrative History.

Civil administration.

Government coins were not current in the district, the copper coins being "received with reluctance;" while the reason given for moving the *táhsíl* from Barsat to Pánípat in 1829 was, that the larger towns afforded greater facilities to the people for exchanging the current coins in which they were paid for their crops for the Government rupees in which alone the revenue could be paid. In 1833 the Government, "in order to afford revenue-payers relief from the "arbitrary exactions to which they were subject at the hands of money-"changers in paying revenue," fixed rates of discount at which the ten sorts of country rupees then current would be received in payment of revenue, in the conviction that "the measure would greatly benefit "the agricultural classes." Education had "steadily deteriorated since "the introduction of our rule;" and in 1826, of the 12 schools nominally existing in the whole district, those of Karnál, Gharaunda, Dhansauli and Naultha were the only ones attended by more than two or three children. These were all supported by private enterprise, and were all bad alike. There were no dispensaries in the district till 1843, when it was proposed to establish them on account of the terrible epidemic.

Customs and Excise.

Every petty chief in the neighbourhood levied innumerable transit dues on the traffic through his territory. This pernicious system was adopted by us also, even to the extent of allowing every little *jágírdár* to levy these dues in his own villages. The customs line, established under the regulations on the left bank of the Jamná, lay wholly to the east of the territory; and the result was that "a vast multitude "of custom-house officers were scattered broadcast over the country, "making collections in every town, and apparently in every consider-"able village, on almost every article of traffic." Payment of these dues did not exempt the goods from duty at the regular customs line; so that goods passing across the Jamná into the regulation provinces had to pay double duty. In 1823 the whole customs machinery west of the Jamná was abolished, and posts were retained only at the ferries, which were about three miles apart. At the same time the dues were assimilated to those leviable under Regulation IX of 1810, and one payment freed goods for all British territory. But this change involved the relinquishment of the customs revenue upon the whole of the trade between Rájpútána and the Sikh territory—a revenue which averaged some five *lakhs* annually. Accordingly, in 1828, a second customs line was established on the Western Jamná Canal. But the posts on both lines were in charge of *muharrirs* on Rs. 7 a month; and the amount of embezzlement was inconceivably great. Smuggling, too, was practised to such an extent that in 1833 it was estimated that not one-sixth of the salt passing through the district had paid duty. In 1834 the "irritating and exasperating interference with trade" practised by the customs officials was seriously commented upon, and all petty traffic was wholly exempted. And when the neighbouring Sikh territory became ours in 1843, the customs line was finally removed from the vicinity of Karnál. Such chiefs, however, as remained independent, continued to levy their own dues until we deprived them of their powers after the Sikh war, when the Nawáb of Kunjpura was compensated for the loss of his customs revenue by a yearly payment from the Treasury.

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Administrative History.

Customs and Excise.

Besides Imperial customs, octroi was levied in Karnál and Pánípat at *ad valorem* rates varying from 5 to 10 per cent. upon all grains, pulse, sugar, oil, oilseeds, *ghí*, tobacco, firewood, charcoal, salt and spices passing within three miles of the town; and these dues formed a part of the Imperial revenue till 1823, when grain of all sorts was exempted, and the revenue was devoted to local improvements under the management of a municipal committee. The annual net revenue thus realised in Pánípat averaged some Rs. 3,000. The present octroi revenue of that town is about Rs. 20,000. A further tax of 6 per cent. on the value of all houses or land sold or mortgaged within the walls of Pánípat and Karnál was levied till 1823, when this and a host of other arbitrary exactions, of which no detail is forthcoming, were finally abolished.

CHAPTER III.

THE PEOPLE.

SECTION A.—STATISTICAL.

Chapter III, A.

Statistical.

Distribution of population.

Table No. V gives separate statistics for each *tahsíl* and for the whole district, of the distribution of population over towns and villages, over area, and among houses and families; while the number of houses in each town is shown in Table No. XLIII. The statistics for the district as a whole give the following figures. Further information will be found in Chapter II of the Census Report of 1881:—

Percentage of total population who live in villages	Persons	87·42
	Males	88·10
	Females	86·62
Average rural population per village		635
Average total population per village and town		721
Number of villages per 100 square miles		36
Average distance from village to village, in miles		1·79
Density of population per square mile of	Total area — Total population	260
	Total area — Rural population	227
	Cultivated area — Total population	586
	Cultivated area — Rural population	513
	Culturable area — Total population	319
	Culturable area — Rural population	279
Number of resident families per occupied house	Villages	1·68
	Towns	2·04
Number of persons per occupied house	Villages	9·41
	Towns	7·50
Number of persons per resident family	Villages	5·59
	Towns	3·68

In the district report on the Census of 1881, the Deputy Commissioner, whose figures for cultivation differ somewhat from those published by Government, wrote as follows:—

Density of population.

"The following statement shows the density of population on total and cultivated areas:—

Tahsíl.	Total area in square miles.	Total population.	Number of persons to the square mile.	Cultivated area in square miles.	Total population.	Number of persons to the square mile.
Karnál ...	832	231,094	278	335	231,094	689
Pánípat ...	458	186,793	408	249	186,793	750
Kaithal ...	1,107	204,734	185	453	204,734	452
TOTAL ...	2,396	622,621	260	1,037	622,621	600

"The density of population is 260 per square mile on the total area, and 600 on the cultivated area for the whole district. The density is greatest in Pánípat, *viz.*, 408, and 750, as we might expect, seeing that

Chapter III, A.

Statistical.

Density of population.

half of the *tahsil* is Khádar, where scarcely any land is uncultivated, and that the rest of the *tahsil* is irrigated by the canal and well supplied by wells. The rain-fall is also little short of that for Karnál, the average being 27·04 for the last 10 years as against 31·57 for Karnál. Karnál comes next with 278 and 689. The Khádar of Karnál is similar to that of Pánípat; the rain-fall is slightly larger; a much smaller area is under canal irrigation; but the chief cause of the difference, as compared with Pánípat, is that of the tract called the Nardak, which includes nearly half of the *tahsil*, ⅔ is waste land, and the remainder is badly provided with wells and badly cultivated by the population, chiefly Ránghars. There is also a considerable population of Saiyads and Gújars who are bad cultivators. Elsewhere throughout the district the industrious Játs, Rors, Ráins, and the like are well mixed up with the less industrious Rájpúts, Gújars, Bráhmans, &c. Kaithal comes last with 185 and 452 for the total and cultivated area respectively. The rain-fall is only 20·9 inches; there is only canal irrigation in 11 villages; and apart from the Chíká *parganah*, which is fairly fertile, and watered by Suruswatí and Ghagar, the land is only fit for rain crops, the water being at too great a distance from the surface to permit of irrigation from wells.

Distribution over houses and families.

"I believe the general custom both among Hindus and Muhammadans is for several families, the heads of which are brothers, to live together so long as their father is alive, and to separate at his death. Of course, the rule is subject to very many exceptions, but the cases of such families being united are much more numerous than the cases of separations. The separation is of course effected in the most convenient way. The building occupied by the household will be divided, if that be easily possible, or an addition or additions may be made in the same enclosure, or may have been made from time to time during the father's life-time, if sons with their families separated before their father's death. Thus we may come to find 4 or 5 brothers with their families living in separate buildings in the same enclosure. Some of these may become vacant in course of time owing to the contingencies of life, and relations may be allowed to occupy them, or they may be let to persons of an entirely different caste. The practice has thus grown up of different families, having little or nothing in common, living together in houses arranged generally in quadrangular form round a common court. It has the advantage of providing in a very economical way some free space off the street which can be used by a number of families without much inconvenience, and the members of the different families are in a position to render each other protection. It is also quite common, at any rate in the towns, for a man who has some spare capital to invest it in house property by building a number of houses around a quadrangle, merely with a view to letting them."

Migration and birth place of population.

Table No. VI shows the principal districts and States with which the district has exchanged population, the number of migrants in each direction, and the distribution of immigrants by *tahsíls*. Further details will be found in Table No. XI and in supplementary Tables C to H of the Census Report for 1881; while the whole subject is discussed at length in Part II of Chapter III of the same report. The total gain and loss to the district by migration is shown in the margin. The total number of residents born out of the district is 98,136, of whom 34,439 are males and 63,697 females. The number of people born in the district and living in other parts of

Proportion per mille of total population.		
	Gain.	Loss.
Persons ..	158	140
Males ..	102	99
Females ..	222	189

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Statistical.

Migration and birth-place of population.

the Panjáb is 87,243, of whom 33,273 are males and 53,970 females. The figures below show the general distribution of the population by birth-place :—

Born in.	PROPORTION PER MILLE OF RESIDENT POPULATION.								
	Rural Population.			Urban Population.			Total Population.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
The district ...	907	779	849	832	772	802	898	779	842
The province ...	971	949	961	910	901	906	964	943	954
India ...	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Asia ...	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The following remarks on the migration to and from Karnál are taken from the Census Report :—

"Here again the migration is largely reciprocal, while the attraction exercised by the riverain and canal tracts has caused the immigration largely to exceed the emigration, both being almost wholly confined to tracts which march with the district, and immigration being most in excess from those districts which have the smallest common frontier. The percentage of males is always larger among emigrants than among immigrants, which seems to point to the immigration being more largely of the permanent type than is the emigration. The extensive emigration into Rohtak and the Native States is largely due to the havoc caused by saline efflorescence in parts of the canal tract."

Increase and decrease of population.

The figures in the statement below show the population of the district as it stood at the three enumerations of 1853, 1868 and 1881. The first of these was taken in 1853 for so much of the district as then formed a portion of the North-Western Provinces (see Chapter II, Section C), and in 1855 for the remainder of the district, which was under the Panjáb Government :—

	Census.	Persons.	Males.	Females.	Density per square mile.
Actuals.	1853 ...	...	...	...	231
	1868 ...	617,997	334,655	283,342	260
	1881 ...	622,621	336,171	286,450	260
Percentages.	1868 on 1853 ...	...	...	...	113
	1881 on 1868 ...	100·75	100·45	101·13	100

Unfortunately the boundaries of the district have changed so much since the Census of 1853 that it is impossible to compare the figures ; but the density of population as then ascertained probably did not differ much over the two areas. It will be seen that the annual increase of population per 10,000 since 1868 has been 3 for males, 9 for females and 6 for persons, at which rate the male popula-

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tion would be doubled in 1993·6 years, the female in 800·4 years, and the total population in 1,212·9 years. Supposing the same rate of increase to hold good for the next ten years, the population for each year would be in hundreds—

Year.	Persons.	Males.	Females.	Year.	Persons.	Males.	Females.
1881 ...	622,6	336,2	286,5	1887 ..	624,8	336,9	288,0
1882 ..	623,0	336,3	286,8	1888 ..	625,1	337,0	288,3
1883 ...	623,3	336,4	287,1	1889 ...	625,5	337,1	288,5
1884 ..	623,7	336,5	287,3	1890 ...	625,8	337,2	288,8
1885 ...	624,1	336,6	287,6	1891 ...	626,2	337,3	289,0
1886 ...	624,4	336,7	287,8				

Nor is it improbable that the rate of increase will be sustained or even become greater in the future. Part indeed of the increase is probably due to increased accuracy of enumeration at each successive enumeration, a good test of which is afforded by the percentage of males to persons, which was 55·00 in 1853, 54·15 in 1868 and 57·99 in 1881. Part again is due to gain by migration, as already shown at page 57. But the realignment of the canal, when complete with its drainage works, will doubtless do much to reduce the sterility and mortality which have attended the extension of irrigation from the old canal.

The urban population since 1868 has not increased like the rural population, the numbers living in 1881 for every 100 living in 1868 being 92 for urban and 101 for total population. This is probably due to the abolition of the stud at Karnál and to the unhealthiness of the towns of Pánípat and Karnál. The populations of individual towns at the respective enumerations are shown under their several headings in Chapter VI.

Tahsíl.	*Total population*		Percentage of population of 1881 on that of 1868.
	1868.	1881.	
Karnal .	239,900	231,094	96
Panipat .	184,237	186,793	102
Kaithal	193,445	204,734	106
Total district*	617,582	622,621	101

Within the district the fluctuations of population since 1868 for the various *tahsíls* is shown in the margin. On this subject the Deputy Commissioner wrote as follows in his report on the District Census of 1881:—

"The cultivated area of the three *tahsíls* of the district, with their population at the last and present Census, is shown in the following statement :—

	Cultivated area.		Population.	
	1866-67.	1879-80.	1868.	1881.
	247,544	214,694	240,322	231,094
Karnál ...	164,322	159,426	184,230	186,793
Pánípat ..	249,505	290,111	193,445	204,734
Kaithal ...				
	661,371	664,231	617,997	622,621

* These figures do not agree with the published figures of the Census Report of 1868 for the whole district. They are taken from the registers in the District Office, and are the best figures now available.

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Increase and decrease of population.

"The increase of cultivated area is thus 2,360 acres, which small increase corresponds very nearly with the increase of population. We have thus to account for a practically stationary cultivation and a practically stationary population. Four causes have, I think, contributed to these unusual results, three of them affecting cultivation and population directly, and one of them affecting the area only. Between 1872 and 1880 the Pánipat *tahsìl* and the Karnál *parganah* have been under settlement. This, no doubt, operated to induce people to throw a certain amount of land out of cultivation, and to prevent them breaking up new land, as this would tend to keep down the new assessment.

"Immediately after the Census of 1868 had been taken, the district was visited by a severe famine. The *kharìf* of that year failed over a large part of the district, as did also the following *rabi*; while the *kharìf* of 1869 was a poor crop. Relief was not obtained until the *rabi* of 1870 was gathered in. Owing to the scarcity of fodder, the loss of cattle is described as having been 'tremendous.' The sum of Rs. 1,71, 643 was spent on charitable relief and on relief works. Revenue was suspended to the amount of Rs. 46,647; and *takàvi* for the purchase of seed corn and bullocks was advanced to the amount of Rs. 44,750. Relief was administered on works and at kitchens throughout the district from September 1869 to June 1870. At one time the number of persons receiving charitable relief daily numbered 12,120. These facts give some idea of the magnitude of the calamity. It was reported at the time that no deaths had occurred from starvation; but the loss of cattle, the necessary impoverishment of the people, and the injury to health from the deficient food, no doubt had an important effect both in sterilizing the population and in keeping down the cultivated area.

"A similar calamity, somewhat less severe, occurred in 1877. The *kharìf* harvest failed almost entirely over a large part of the district, and there was great dearth of fodder. The *rabi* of 1878 was very deficient, and so was the *kharìf*, and there has been a continuance of bad harvests since, with only one or two exceptions. Revenue was remitted to the amount of Rs. 33,049, and the suspensions amounted to Rs. 87,432, and have not yet been entirely cleared off. *Takàvi* for the purchase of seed and bullocks was advanced to the amount of Rs. 39,070. In 441 out of 927 villages in which revenue had to be suspended, inquiries showed that 82,280 head of cattle, many of them plough bullocks, perished, and the loss was only somewhat less severe elsewhere. I think there was no mortality from starvation, and the mortality generally was, I believe, less than usual in those years of drought and scarcity; but owing to the poor diet and hardships suffered, the people fell a prey in large numbers to a fever epedemic in the end of 1879, and they are still suffering from a disease of ulcers, which first showed itself then. It cannot be doubted that all this must have had an important effect in keeping down the population and the cultivated area.

"The fourth cause I have to assign is—the defects of the Western Jamná Canal system; the original faulty alignment of the canal obstructing drainage; the passing along it an amount of water it was never intended to carry; the pernicious system of irrigation pursued by the people, causing a large part of the country to be swamped and waterlogged; the efflorescence of *reh* in many parts; and the worst possible effect on the sanitary condition of the people. The evil was of course in existence at the last Census, but the works undertaken to remove it have not yet come into use, and it is of a nature to go on increasing until the cause be removed. Each famine, causing an attempt to extend irrigation to the utmost, has a direct tendency to increase the evil, and there have been two famines since the

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last Census. The result is to sterilize the people and to diminish the area available for cultivation. In Pánipat *tahsíl* the Settlement and the canal have been operating causes. The cultivated area has decreased by 5,396 acres, but there is notwithstanding a slight increase of population, *viz.*, 2,563. In Karnál all four causes have been at work, and there has been a decrease of 32,850 acres cultivated, and 9,228 of population. The decrease of population is enhanced in this instance by the removal of the stud from Karnál, and by the fact that at the Census of 1868 there were present on the Karnál encamping ground a native regiment and a battery of artillery, giving a total of 1,985; while at the present Census there was present only a native cavalry regiment numbering 823 persons. The Kaithal *tahsíl* has suffered greatly from the famines. There is, however, an increase of cultivation amounting to 40, 606 acres, and of population of 11,289 persons. The population is not at all in proportion to the increased area. The cause of this is that the increase of cultivation is mostly where the land is poor, *viz.*, in the Asand, Kathána, and Kaithal *parganahs*, and that in Kaithal the land supports a smaller population than elsewhere."

Births and deaths.

Table No. XI shows the total number of births and deaths registered in the district for the five years from 1877 to 1881, and the births for 1880 and 1881, the only two years during which births have been recorded in rural districts. The distribution of the total deaths and of the deaths from fever for these five years over the twelve months of the year is shown in Tables Nos. XIA and XIB. The annual birth-rates per mille, calculated on the population of 1868, were as shown in the margin.

	1880.	1881.
Males ..	17	23
Females ..	14	20
Persons ..	31	43

The figures below show the annual death-rates per mille since 1868, calculated on the population of that year :—

	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Average
Males ...	14	23	26	22	23	19	21	22	22	22	46	60	40	37	28
Females...	11	20	22	19	21	17	19	20	20	20	42	58	36	35	26
Persons ...	13	22	24	21	22	18	20	21	21	21	44	59	38	36	27

The regsitration is still imperfect, though it is yearly improving, but the figures always fall short of the facts, and the fluctuations probably correspond, allowing for a regular increase due to improved registration, fairly closely with the actual fluctuations in the births and deaths. The historical retrospect which forms the first part of Chapter III of the Census Report of 1881, and especially the annual chronicle from 1849 to 1881, which will be found at page 56 of that report, throw some light on the fluctuations. Such further details as to birth and death-rates in individual towns as are available will be found in Table No. XLIV, and under the headings of the several towns in Chapter VI.

Age, sex and civil condition.

The figures for age, sex and civil condition are given in great detail in Tables Nos. IV to VII of the Census Report of 1881, while the numbers of the sexes for each religion will be found in Table No. VII appended to the present work. The age statistics must be taken subject to limitations, which will be found fully discussed in Chapter VII of the Census Report. Their value rapidly diminishes

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Age, sex and civil condition.

as the numbers dealt with become smaller; and it is unnecessary here to give actual figures, or any statistics for *tahsils*. The following figures show the distribution by age of every 10,000 of the population according to the Census figures :—

	0—1	1—2	2—3	3—4	4—5	0—5	5—10	10—15	15—20
Persons	321	150	150	229	264	1,114	1,296	1,169	986
Males	307	142	145	214	256	1,064	1,305	1,250	1,040
Females	336	160	157	246	273	1,172	1,286	1,072	923
	20—25	25—30	30—35	35—40	40—45	45—50	50—55	55—60	over 60
Persons	999	932	837	480	706	327	512	148	493
Males	997	931	813	474	654	341	502	159	468
Females	1,002	932	864	488	766	310	523	136	523

The number of males among every 10,000 of both sexes is shown below. The decrease at each successive enumeration is almost certainly due to greater accuracy of enumeration :—

Population.		Villages.	Towns.	Total.
All religions ...	1855	...	...	5,500
	1868	...	...	5,415
	1881	5,441	5,107	5,399
Hindus	1881	5,461	5,191	5,437
Sikhs	1881	5,559	...	5,605
Jains	1881	5,472	4,951	5,347
Musalmáns	1881	5,366	5,007	5,281

Year of life.	All religions.	Hindus.	Musalmáns.
0—1	935	930	948
1—2	956	948	1,010
2—3	925	917	950
3—4	981	...	...
4—5	907	...	...

In the Census of 1881, the number of females per 1,000 males in the earlier years of life was found to be as shown in the margin.

The figures for civil condition are given in Table No. X, which shows the actual number of single, married and widowed for each sex in each religion, and also the distribution by civil condition of the total number of each sex in each age-period. The Deputy Commissioner (Mr. Benton) wrote as follows in his Census Report for the district:—

"Both Hindus and Muhammadans show a more even proportion of males to females everywhere in the towns than in the villages, and the Muhammadans everywhere both in towns and in villages show a larger female population than the Hindus. The Sikhs are in considerable numbers in the villages of Karnál and Kaithal, and there the proportions between the sexes show no marked difference from those of the Hindus. Statements so general in their character with regard to the members of the Hindu and Muhammadan religions and Sikh religion, wherever they are in sufficient numbers to justify remarks, cannot be the result of accident, and neither can it be accident that the proportions for the last Census should so nearly correspond to those of this.

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"In addition to the authorities cited on the disproportion of the sexes by Mr. Plowden in the North-Western Provinces Census Report, the only authority with which I am acquainted is 'Darwin on the Descent of Man' pages 242 to 260, Ed. 1874.

"With regard to disparity between the ages of the males and the females, if it be an effective cause, it no doubt exists. By working out the average ages of males and females, by taking the ages of all included within any period in the returns as if the middle of the period were their proper age, and with regard to those over 60, taking them all as 65 years of age, I find the average age for married males 33·48, and that for females 29·00. For Hindus these averages are 33·54 and 28·87, while for Muhammadans they are 35·6 and 29·50, the difference being 5·56 as against 4·67 for Hindus. This is an altogether unexpected result, it being generally supposed that as cohabitation is postponed for 4 or 5 years longer in the case of Muhammadans, the ages of the husband and wife were more nearly equal than in the case of Hindus. Seeing a state of equality between the sexes more nearly obtains among the Muhammadans than among the Hindus, this would appear to indicate that if disparity of ages be an effective cause there must be some other force in operation which depresses the Hindu proportion of females to males in towns and villages, and yet allows the Muhammadans with greater disparity of ages to have a much more equal proportion everywhere. Infanticide or ill-treatment of females practised at the present time, with a hereditary tendency developed by their practice in bygone times, would serve to explain the results. Muhammadans, having all of them a good deal of Hindu blood in their veins, if not wholly Hindus, would not escape the taint of these vices or of their accumulated effects if they be not now practised; but the results would be very much diminished, and great disparity between different castes which intermarry only amongst themselves and preserve their own habits and usages, would be matter of no astonishment.

Infanticide.

"With regard to a hereditary tendency to produce males, I consider that the conditions necessary to establish it are still in existence to some extent. There is no doubt that infanticide, if not general, still exists. We have a police post established at Keorak for its prevention, and there are good reasons for suspecting three more villages to be guilty of the practice. The persistent difference between towns and villages, although the towns are to a large extent inhabited by an agricultural population in no respect different from that of the villages, the more favourable proportion for Muhammadans generally, even with disparity of years against them, especially when compared with those of the same caste who are still Hindus, lead to the conclusion that infanticide still prevails among the agricultural population to a much larger extent than could have been imagined. There are strong motives for getting rid of a super-abundant family of daughters. Although in most castes a price can be got for a bride, still where the price is highest the up-bringing of daughters must be a considerable loss, looking at the matter as one of pure profit and loss; and to men of respectability, who wish to marry their daughters in accordance with the prevailing customs, a large family of daughters is universally declared to be a ruinous misfortune.

Treatment of female children.

"It is admitted on all hands that there is a difference between the treatment of male and female children, but it is not admitted that this difference is of a character to cause the destruction of the latter. The total effect, however, of a prevailing feeling more favourable to males than females may not be inconsiderable even if it does not go the length of criminality. It is, however, sufficient for the purpose of establishing a

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hereditary male-producing tendency if female infanticide prevailed in former ages, and of this I suppose there is no doubt whatever.

Polyandry and polygamy.

"We know of course that there is no polyandry here, and that polygamy does prevail to a very slight extent. This is not the conclusion, however, that we should arrive at from the returns. From them we learn that there are in the district 2,574 more married males than married females, although we should have had a slight excess of females to be accounted for by polygamy. I am somewhat at a loss for an explanation of this result. I believe it may be due to the fact that we had a native regiment passing through, which contained 698 males, many of whom may have been married; and that there may be a good many Government servants, Police and others, residing in the district who have their wives elsewhere. The people of the district are of a stay-at-home character, and do not like going on service elsewhere. I was impressed by this feature while trying to get men for service with the troops during the war in Afghánistán. Consequently the deficiency of married females, due to residents of other districts being temporarily settled here, would not be compensated by natives of this district temporarily residing elsewhere, and leaving their wives behind them. I observe that there is a larger percentage of married females in the towns of Pánípat and Kaithal than anywhere else. A good many people in both these towns are educated and employed on service elsewhere. They may have left their wives behind them; this is the probable explanation.

Widows and widowers.

"The percentage of widows to the whole of the females is in each case considerably larger in the towns than in the villages, and the number of widowers varies from about a half to something short of a third of the number of widows in different places. These differences are be to explained by the restrictions on widow marriage. Baniás, Bráhmans and other high castes who forbid widow marriage prevail in the towns and keep up the percentage of widows. The Rájpúts also forbid widow marriage and they keep up the percentage wherever they prevail. There are very few in the villages of Pánípat *tahsíl*, and there the number of widows is smallest, *viz.*, 15·51 per cent; Kaithal, where they are not very numerous, follows with 15·71; and Karnál villages, where they are very numerous, is highest with 17·99. The percentages in Pánípat, Kaithal and Karnál towns are 17·38, 18·74 and 22·73 respectively. The small percentage of widows in Pánípat villages partly accounts for a larger percentage of married males and females than anywhere else.

Summary.

"To sum up, the Saráogis marry earlier than the members of any other religion. The Hindus come after them in this respect, then the Muhammadans, and the Sikhs marry latest of all. Notwithstanding we find that the average disparity of ages between husband and wife, which is about 4½ years for Hindus, is nearly a year more for Muhammadans. Although polygamy exists to a small extent, there is found to be an excess of married men over married women, which is attributable to the stay-at-home character of the population, which prevents married males going on service elsewhere leaving their wives behind; while males from other districts come here without their wives. Disparities are observed in different localities as to the percentage of widows and widowers, which depend on the usages of the population in those places as to the marriage of widows. The usual disproportion between the sexes is observed. The males are in the proportion of 53·99 to 46·01 females. The disproportion is larger in the towns than in the villages, and larger among the Muhammadans as a whole than among the Hindus. The Hindu agricutural population shows most unfavourably. With a few trivial exceptions, the high caste Muhammadans show best, and the *Mahájan* caste is on an equality

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Social Life.

Summary.

with them. The disproportion may be due partly to climate and partly to disparity of ages between the sexes, but these cannot be the only causes, as the disparity is less in the case of Muhammadans who show a larger proportion of males, and these causes do not account for the differences shown by different castes. It is necessary to postulate some other cause. An inherited tendency to produce males caused by female infanticide practised in the past, if not also in the present, and by female ill-treatment still prevailing, would satisfactorily account for all the phenomena."

Infirmities.

Table No. XII shows the number of insane, blind, deaf-mutes, and lepers in the district in each religion. The proportions per 10,000 of either sex for each of these infirmities are shown in the margin. Tables Nos. XIV to XVII of the Census Report for 1881 give further details of the age and religion of the infirm.

Infirmity.	Males.	Females.
Insane ...	5	3
Blind ..	66	81
Deaf and dumb	5	3
Lepers ..	5	..

European and Eurasian population.

The figures given below show the composition of the Christian population, and the respective numbers who returned their birth-place and their language as European. They are taken from Tables Nos. IIIA, IX and XI of the Census Report for 1881 :—

	Details.	Males.	Females.	Persons.
Races of Christian population.	Europeans and Americans	20	16	36
	Eurasians	...	1	1
	Native Christians	24	24	48
	Total Christians	44	41	85
Language.	English	21	17	38
	Other European languages	...	...	...
	Total European languages ...	21	17	38
Birth-place.	British Isles	12	6	18
	Other European countries	...	...	...
	Total European countries ...	12	6	18

But the figures for the races of Christians, which are discussed in Part VII of Chapter IV of the Census Report, are very untrustworthy; and it is certain that many who were really Eurasians returned themselves as Europeans.

SECTION B.—SOCIAL LIFE.

The homestead and the homes.

When a new village is founded, the first thing done is to dig out tanks to hold rain-water for the cattle, washing, &c. The village is then built on the spoil; and as in course of time old houses fall down and new ones are built, the village is raised high above the surrounding plain; in some of the old Nardak villages as much as 150 or 200 feet. The space immediately around the village is called *goira;* and here the cattle stand to be milked, weavers train their warp, fuel is stacked, dung-hills made, ropes twisted, sugar presses erected, and all

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the operations conducted for which free space is necessary. The village is generally surrounded by a mud-wall and ditch as a protection against thieves, and is entered by gates, often of brick, and containing side-rooms in which the gossips sit when it grows hot under the huge *bar* tree or *pípal* which generally stands just outside. Main streets (*galí*) run right through from one gate to another; and in Rájpút and other villages where the women are strictly secluded, numerous blind alleys (*bagar*) lead from them, each being occupied by the houses of near relations. In other villages the alleys run right through. The proprietors, Baniás, and Bráhmans, live in the centre; the menials on the outskirts of the village. The houses are usually of adobe, except in the Nardak and the older villages, where brick is common; the change bearing patent evidence to the tranquillity which we have substituted for anarchy. At two or three commanding positions are common houses (*paras, chopál,* and in Kaithal, *chopár, hethai*) belonging to the wards of the village. In Kaithal these buildings are often imposing structures. There will also be a few *baithaks* or sheds for gossiping in, and many cattle pens scattered about the village.

Entering the street door of a private house you pass into the outer room or *dahlíz,* beyond which you must not go without permission, and where your friend will come and talk. It is often partly occupied by some calves. Beyond this is the yard (*chauk*), separated from the streets by a wall, and in which the cattle are tied up in cattle sheds (*bára*), and the women sit and spin. Round this are the houses occupied by the various households of the family. In front of each is a room with the side towards the yard open (*dálán* or *tamsál*) which is the family living-room. On either side of this will be a *sidari* or store-room and a *chatrá* or cook-room with its *chhúla* or hearth; and there is often an inner room beyond called *obri* or *dobári* if with two doors, and *kota* or *kotri* if with one only. Upstairs is the *chaubára,* where the husband and wife sleep; while the girls and children sleep downstairs, and the boys in the *chopál* or the *dahlíz.*

There will be some receptacles for grain (*kothí*) made of rings of adobe built up into a cylinder. This has a small hole in the bottom, out of which the grain runs, and keeps always full a small receptacle open in front, from which it is taken as wanted. There will be some ovens (*bharàlà, hàrà*) for warming milk; there will be recesses in the wall to act as shelves (*pendi*); one or two swinging trays or rope rings for water vessels; a few bedstead (*manja, khàt*) made of wooden, frames covered with netted string; a few small stools (*pìrà, pìdà khatolà*) of identical construction; a few small low wooden tables (*patrà*); and some large baskets to store clothes in (*pitàr*). There will be some small shallow baskets (*dàlrì*) for bread and grain; and some narrow-mouthed ones (*bijri*) to keep small articles in.

Domestic utensils.

The metal vessels will consist of large narrow-mouthed cauldrons (*toknà, toknì*), for storing water in and cooking at feasts; smaller vessels of similar shape (*batloì*) for ordinary cooking and carrying water to the fields; still smaller ones (*lotà, gadwá, bantá*) for dipping into water and drinking from; some cups (*sardá*) without handles; some tumbler-shaped drinking vessels (*gilás,* corrupted from English glass): a broad shallow bowl or saucer (*latorá, beld*) for drinking hot liquid

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Domestic utensils.

from; a large tray (*thàlì*); a larger tray for kneading dough in (*paránt*); a brass ladle (*karchi*); a spatula for turning bread (*konchà paltá, khurchná*); a thin iron plate (*tavá*) for baking cakes, and some pairs of iron tongs (*chimta*); a fry-pan (*karái*) and a sieve (*chhalní*), both of iron; and an iron bucket (*dol*) for drawing water from the well. The poorer people will not have all of these, and poor Musalmáns very few of them; but most of them are necessary to a Hindu, who may cook in, but may not eat out of an earthen vessel if already used. The Hindu's utensils are made of brass, and perhaps a few of bell-metal (*kánsí*); the Muhammadan substitutes copper for brass, which he does not use.

The vessels of pottery will be some huge narrow-mouthed vessels for storing water (*mát, daggá*); similar ones, but flatter and smaller (*jhakrá, kachháli, jháola*; if mouth very big, *thàl*) with mouths broad enough to admit the hand, for grain or flour; similar but smaller vessels for carrying water and milk (*matka* if striped, *ghara* if plain); still smaller ones for dipping water (*thilià, gharia, dùna*); milk pots with round brims (*jháb, mángi*); and bowls for cooking vegetables and boiling and setting milk in (*hánli, baroli*); smaller vessels with spouts to carry milk to the fields in (*karùa* if striped, *lotá* if plain; if without a spout, *lotki*); large flat saucers for cooking in and eating from (*kúnda, kanáli*); bowls for keeping sugar, &c., (*taula*); small cups (*matkana*) and platters (*kasorá, kasorí, saraí*, and *saranu*) used once at feasts and thrown away; small earthen lamps (*díwa*) with a notch for the wick; and various sorts of covers (*kappan, kapní, dhakní, chakni*); also some large broad bowls for feeding cattle from (*nánd, kùnd, nandolà*). Besides, there are tiny pots for offerings and play (*kulia*); small saucers (*haziri, khwàjiri*) in which lamps are floated in honour of Khwájah Khizr, and which are also used for eating from and as covers; and tiny lamps (*chugrè chigsa*) for the *Diwáli* festival. The earthen vessels used by Hindus are usually ornamented with black stripes (*chitan*); but Musalmáns will not eat from vessels so marked, because the *gharà* full of water given to a Bráhman (*mansna*) on *Ekádshí* after religious ceremonies by Hindus must be striped, and therefore the markings are supposed to be specially Hindu. Of course the metal vessels are expensive; but the remaining furniture of an ordinary village house costs very little. The string of the bedsteads is made at home; while the carpenter makes the furniture, and the potter supplies the earthen vessels as part of their service.

Daily life.

The day of twenty-four hours is divided into eight *pahrs* or watches, four of day counting from dawn, and four of night. Each *pahr* is divided into eight *gharís*. The dawn is called *pilíphati*, the early morning *tarká*, the evening *sánj*. The daily life of the ordinary able-bodied villager is one of almost unremitting toil. He rises before dawn, eats a little stale bread, gets out his bullocks, goes to the fields, and begins work at once. About 8 o'clock his wife or a child will bring him a damper,* often stale, and a bowl of butter-milk or milk and water (*lhasi pakki* or *kachchi*). At noon he has a hearty meal of fresh damper and a little pulse boiled with spices (*dál*), or some boiled vegetable (*sag*); in the cold weather this is brought to him in the

* This is perhaps the best word for the bread cake of the country, though it is far inferior to a well-made damper.

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Daily life.

field; in the hot weather he goes home for it, and does not begin work again till 2 P. M. In the evening he comes home, and after feeding his cattle eats his dinner, the grand meal of the day. His wife will have pearled some *jwár* and soaked it in the sun till it has swelled (*khata ána*) and then boiled it in milk (*ràbri*); or she will have dry-boiled some whole grain and pulse mixed (*khichrí*), or made a porridge of coarsely ground grain (*dalia*); or boiled up glutinous rice into a pink mass (*chàwal*), or made a rice-milk of it (*khìr*). There will be a little pease pudding (*dál*), or the pulse will be boiled with butter-milk and spices (*jholí, kadhì*) and some pickles (*achàr*) or rough *chatní*, or some vegetable boiled with salt and *ghí* as a relish. After his meal he goes out for a smoke and a chat to the *chopál*, or under the *bar* tree outside the village.

The grain generally used in the hot weather is a mixture of wheat, barley, and gram, or any two of them, generally grown ready mixed: in the cold weather, *jwár* and maize. Unmixed wheat is seldom eaten, as it is too valuable. The vegetables used are the green pods of the *lobiá* (Dolichos sinensis) the fruit of the eggplant or *Bangan* (solonum melongena) and of the *bhindì* (Abelmoschus esculentus), and of many pumpkins (*kaddu*), gourds (*kakrí*), watermelons (*tarbúz*) and sweetmelons (*kharbùzah*), and the leaves of all the Brassicas of the cockscomb or *chaulaí* (Amaranthus polygonus), *methí* (Trigonella fenugrœcum), of the small pulses, and the roots of carrots (*gájar*). Wild plants so used have been mentioned in Chapter I. The spices and pickles are too numerous and unimportant to detail. A hearty young man in full work will eat daily from 1 to 1½ seers of grain, one-eighth of a seer of pulse, and two seers or more of butter-milk besides vegetables, &c. The richer Muhammadans occasionally eat goat's flesh; but this is exceptional; but the Hindu does not touch meat, while to the ordinary peasant of either religion, animal food other than milk and *ghí* is quite beyond his means.

The women of the family have all the grinding, cooking, cleaning the house, and spinning to do; among the Bráhmans and Rájpúts they are strictly confined to the walls of the court-yard, where they cook, spin, clean cotton of its seed, grind flour, husk rice, and so on. Among the Tagás and Gújars they go to the well for water and take the dinner to the field, and often pick cotton and safflower. Among the Játs and Rors they also weed, and do other hard field-work. They all sit much about in the alleys spinning and gossiping, often very much undressed: and though their life is a hard one, it is, to judge from appearances, by no means an unhappy one. The boys, as soon as old enough, are taken from the gutter and sent to tend the cattle; and from that time they are gradually initiated into the labour of their lot. At evening they play noisily about; a sort of rounders, tipcat, hide-and-seek and prisoners's base, being favourite games. The life is a terribly dull one. The periodical fair or *melà* and the occasional wedding form its chief relief, together with the months of sugar-pressing, when everybody goes about with a yard of cane in his mouth, and a deal of gossiping (as well as a deal of hard work) is done at the press. But the toil is unremitting; and when we think what a mud hovel in a crowded village, innocent

of sanitation must be in July and August, we can only wonder at the marvellous patience and contentment of the villager.

Food.

The foregoing description of the food of the people is taken from Mr. Ibbetson's Settlement Report. The following note regarding the food of the people was furnished by the district authorities for the Famine Report of 1879, (pages 212-13) :—

"The grains which form the staple food of the village population are : *kharíf*, *jwár*, *bájra*, maize, coarse rice, *moth*, *mùng*. *Rabi* grains : *masúr*, wheat, barley and gram sown, reaped, and eaten mixed.

"The average yearly consumption of a family of 5 souls among the agricultural and labouring classes may be given as follows :—

	Maunds.
Bájra and *jwár* .	8
Coarse rice or maize	5
Pulses . .	5
Wheat, gram and barley mixed	10
Gram . ..	5
Masúr, *mandwa*, &c. . . .	3

"In all 36 maunds. *Bàjra* takes the place of part of the *jwàr* in the high light soils where it is grown. Maize is more eaten in the riverain villages, and rice elsewhere.

"Among the better classes, whether in the city or in the villages, the following is a fair estimate :—

	Maunds.
Maize and *jwár* .	3
Fine rice .. .	4
Pulses	3
Wheat	13
Gram	4
Total ..	27

Clothes.

The men wear a made turban (*pagrí*) or a strip of cloth (*dopattá*) wound round the head; a short under-coat buttoning up the front (*kurtá*); or else an overcoat (*angarkhá* if long, *mirzaí* or *kamrì* if short) fastening with a flap at the side; and a loin-cloth (*dhotí* if broad and full, *àrband* if scanty, *langar* if still more scanty), or a waist string (*tágáí*, or if of silk, *pát*) with a small cloth (*langotí*), between the legs. The *kurtá* is new fashioned and is not graceful. A single wrap (*chádar*) in the hot weather and a double wrap (*dohar*) or a quilt (*rizáí*) in cold, and a pair of shoes (*pátan*) complete the toilet. Trowsers (*suthan*) are only worn on occasions of ceremony; a handkerchief (*agonchá*) is occasionally used. Hindus and Musalmáns are distinguished by the *angarkhá* of the former opening to the right and of the latter to the left. Musalmáns sometimes wear their loin-cloth not passed between their legs (*tehmad*); but they usually adopt the Hindu fashion, though they preserve their own name for the garment. In the north the coats are worn much shorter than in the south; and the Játs of the south and west on occasions of state often wear turbans of portentous size, especially the Dehia and Dalál Játs. In the north of the tract the turban is always white, lower down often coloured; Ghatwál Játs and Banyás generally wear them red; and religious devotees of a yellow ochre colour. The other clothes are either white or made of prints; never whole coloured.

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Clothes.

The married women wear a boddice to support the breasts (*àngí* or *angla*) ; married or single they wear a small coat down to the hips (*kurtì*) buttoning to the right ; a petticoat (*ghàgrì*, *lengá*) or drawers (*paijámah*), and a wrap (*orhná*). *Telì* and *kumhàr* women wear the coat and petticoat in one piece like a gown (*tilak*). The coat is often not worn ; but a Rájpút woman *always* wears it, though she sometimes omits the boddice. Musalmán women generally wear drawers, and Hindu women petticoats. So again Musalmán women wear blue (indigo) coats and wraps without admixture of red or yellow ; while a Hindu woman wears red clothes as a rule, and will not wear a blue coat or wrap at all ; while her petticoat, if blue, must be spotted or embroidered with red or yellow. But *all* Rájpút women, unless very old, wear drawers, red or blue according to religion : on the other hand, Musalmán Gújar women wear petticoats after consummation of marriage and till they grow old, and Hindu Gújar women wear the petticoat spotted white or red, never whole red. The whole red petticoat is called *dáman* ; and the Gújar blue petticoat, with or without spots, *tukri* : a petticoat or wrap spotted with red spots is called *thekna*, from *thekna* to spot. Only prostitutes wear *wholly* white clothing. Children go naked till 4 or 5 years old ; sometimes boys wear a *langoti*, and girls a triangular piece of cloth called *fania*. A girl then wears a petticoat or drawers, and a boy a *langotì* and *tàgri*, and sometimes a *jhuglá* or shirt. A girl cannot wear an *ángí* until she is married and lives with her husband. The everyday clothes are always made from the village-made cloth, which, though rougher, is much stronger than English. Prints are largely brought into holiday use. The ordinary dyes are indigo for blue and safflower for red and yellow. A complete suit of female clothes is called *tìl* or *tìal* ; of male clothes, *jora*.

Jewels and personal adornment.

The jewels (*gená*) worn by men are as follows :—Ear-rings (*gokrù*) bracelets made of a cylindrical bar of metal (*kangan, todar*) ; a single necklace or rosary always containing beads (*màla*) ; a broad necklace made of chains (*kantlà*) ; a locket (*kanthí*) ; rings (*angunthí*). Boys often wear waistbands of silver chain (*tàgri*). The most usually worn of the above are the ear-rings, single necklace with a small locket (often sacred to Shiv) ; and if a headman, a ring with a seal in it. It is not good taste for any members of the village proprietary community, except the headman, to wear seal rings. Women wear a band of silver cowries going up the parting of the hair, and fastening to pins on the back (*kauri*) ; a frontlet on the forehead (*bindì*) ; plain ear-rings (*bujnì*) ; ear-rings on the top of the ear with loops of chain (*bàlì*) ; nose-rings (*nàt, nath*) ; necklaces of 14 coins (if all rupees *jhalra*, if one a gold *mohur, tikàwal*) ; bossed armlets (*tàl, tàdià*) ; bracelets in the following order from the elbow to the wrists, *pachhelì, chhan, kangni, chúra* ; a breastplate of silver chain (*dharu*) ; chains and bells fastened to the right-hand corner of the *orhnà* (*pallà*) bosses and chains fastened to the front of the *orhnà* so as to fall over the face (*ghùngat*) ; a silver tassel on the petticoat ever the right hip (*nàra*), a bunch of chains and tassels on the ankle (*pàzeb*) ; solid anklets (*bànk*). Of course the varieties have innumerable names. A woman's social standing is greatly determined by her jewels ; and the women, when talking to an English lady, will often condole with her

Jewels and personal adornment.

on her husband's stinginess in not supplying her better. The nose-ring, the plain armlet, and the *chùrà* or wristlet have a social signification (pages 73, 78 *infra*). The armlets and bracelets and anklets, being solid and not easy to get off, are always worn; the rest only on state occasions, such as fairs and the like. The ordinary investment for spare capital is to buy jewels for one's wife, as the money can always be realized on occasion. The custom of tattooing (*khinna, godná*) is common, except among the Rájpúts and Bráhmans. Only women do it; and they tattoo the chin, the inside of the forearm, the outside of the upper arm, the sides of the waist, the calf of the leg. The Gújars do not tattoo the arm. Men and prostitutes have small holes drilled in their front teeth, and gold let in (*chaunp*).

Birth.

When a woman is about to be delivered she is taken off the bed and put on the ground. If a boy is born, a brass tray is beaten to spread the news. A net is hung up in the doorway, and a garland (*bandarwál*) of mango leaves; and a branch of *nìm* is stuck into the wall by the doorway, and a fire lighted in the threshold, which is kept up night and day. Thus no evil spirits can pass. The swaddling clothes should be got from another person's house. They are called *potrá*; thus "*potron ká amìr*" is equivalent to "a gentleman from his cradle." For three days the child is not suckled. For five days no one from outside, except the midwife, goes into the house. On the night of the sixth day (natives always count the night *preceding* the day as belonging to it) the whole household sits and watches over the child; for on the sixth day (*chhatá*) the child's destiny (*lekh*) is written down, especially as to his immunity from small-pox. If the child goes hungry on this day, he will be stingy all his life; and a miser is accordingly called "*chhate ka bhùkhà*" so a prosperous man is called "*chhate ká Rájá*." On the sixth day the female relations come on visits of congratulation, but they must not go into the room where the woman is lying in. The father's sister, too, comes and washes the mother's nipple and puts it into the child's mouth, and the mother takes off her necklace and gives it to her sister-in-law; *gur* is divided to the brotherhood. On the seventh day the female *Dùm* or bard comes and sings. Till the tenth day the house is impure (*sùtak*) and no one can eat or drink from it, and no man can go into it unless belonging to the household. On the tenth day (*dusúthun*) the net is taken down, the fire let out, all the clothes washed, all the earthern vessels renewed and the house new plastered; the Bráhmans come and do *Hom* to purify the house, and tie a *táyri* of yellow string round the boy's waist; and the Bráhmans and assembled brotherhood are feasted. The child is often named on this day; the Bráhman casting the horoscope and fixing the name. But the parents sometimes change the name if they do not approve of the Bráhman's selection. At the birth of a girl the tray is not beaten, no feasting takes place, and no net is hung up or fire lighted. The mother remains impure for five weeks; no one can eat or drink from her hands; and she takes her food separately. As soon as there is hair enough, the boy's head is shaved and his *chotí* (scalplock) made; but there are no further ceremonies till his betrothal.

Betrothal.

Betrothal is called *nátá*; the ceremony *sagái*. It generally takes place in infancy. When the father of a girl wishes to betroth her,

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Betrothal.

he makes inquiry for a marriageable boy of good family, the village barber acting the part of go-between. If matters are satisfactory, he sends the barber to the boy's village, who puts either a ring or one rupee into the boy's hand. This is called *rokna* (from *rokna* to restrain); and if the boy's father returns Re. 1-4-0 called *bidágí*, to the barber to take to the girl's father, he thereby accepts the offer and clenches the engagement. This engagement is not a necessary preliminary of betrothal; and is most customary among castes, such as the Rájpúts, who marry at a comparatively late age, and who do not wish to go to the expense of a formal betrothal so long beforehand, for fear one of the children should die and the money be wasted. Among the Gújars, on the other hand, the above ceremony constitutes betrothal; but the *tìkà* is affixed at the time by the Bráhman as described below. It is possible for the proposal to come from the boy's side, in which case he sends his sister's necklace; and if the girl keeps it, his proposal is accepted. But this is only done when the families are already acquainted.

When it is decided to proceed to the betrothal (*sagài*), the barber and Bráhman are sent with the *pìch-narìal* or one rupee which has been all night in the milk which is set for butter, a loin-cloth (*pìch*) and a cocoanut (*narial*). The boy is seated in a chair before the brotherhood, the Bráhman puts the *tiká* or mark on the boy's forehead and the other things into his lap, and *gùr* is divided by the boy's father, who takes hold of the hand of each near relation in turn and puts some *gùr* into it. The boy's father then gives Re. 1-4-0* to the Bráhman, and double that to the barber. This is called *neg* or *lág*, and must be brought back to the girl's father; and when so brought back completes the betrothal. Ordinarily *no* relation of the girl *may* take any part in the embassy (*lági*) of betrothal; but Bráhmans send the girl's brother-in-law or relation by marriage. Exchange of betrothals between two families (*sántá nátá*) is considered very disgraceful; and if done at all, is done by a tripartite betrothal, *A* betrothing with *B*, *B* with *C*, and *C* with *A*. Among the Játs, if the boy dies, his father has a right to claim the girl for his other son; or, in default of another, any male relation in that degree. If the girl dies her family has no claim.

Marriage preliminaries.

Játs marry at about 5 or 7 years old; Rors and Gújars at 12 to 14; Rájpúts at 15, 16 or even older. The prohibited degrees are given at pages 102, 103. Foster relationship is equivalent to blood relationship as a bar to marriage. Any number of wives may be married, but a second wife is seldom taken unless the first is childless. A sister of a first wife may be married, or any relation in the same degree; but not one above or below. The boy's Bráhman fixes an auspicious day, and decides how many ceremonial oilings (*bán*) the boy is to undergo. It must be 5, 7, 9, or 11; and the girl will undergo *two* fewer than the boy. The boy's father then sends a *lagan* or *tewà*, generally 9, 11, or 15 days before the wedding, which is a letter communicating the number of *bán* and the number of guests to be expected, and is accompanied by a loin-cloth or a complete suit of female clothes (*tíal*) and

* Wherever other people give Re. 1-4-0, the Játs pay Re. 1 and 4 *taka*, that is, 8 country pice at 5 to the *anna*.

Marriage preliminaries.

a pair of shoes. In all these communications the Bráhman who takes the letter always gets Re. 1-4-0.

The boy and girl then undergo their *bàns* in their respective homes. The women collect and bathe them while singing, and rub them from head to foot with oil and turmeric and peameal. The *bàns* are given one each night, and are so arranged that the boy's will end the night before the procession starts, and the girl's the night before the wedding. After each *bàn* the mother performs the ceremonies of *àratà* and *sewal* described below to the boy. The girl has only *sewal* performed, as *àratà* can under no circumstances be performed over a female. The day of the first *bàn* is called *haldhàth*, or "red hand." Seven women with living husbands husk 5¼ seers of rice and make sweets with it. The Bráhman comes and sticks up two small round saucers, bottom outwards, against the wall with flour, and in front of them a flour lamp is kept alight in honour of ancestors. On either side he makes five marks of a bloody hand on the wall. This is done in each house. In the girl's village the street turnings all the way from the village gate to the bride's house, and the house itself, are also marked with red or red and white marks. After the first *bàn* the boy has the *ràkri* or black woollen thread, with a small iron ring (*chhallà*) and some yellow cloth and betel-nut, tied round his left ankle. The girl has her small gold nose-ring put on; for up to that time she can only wear a silver one; and she must not wear a large one till she goes to live with her husband. She also takes off her silver wristlets (*chùrà*) which no married woman may wear; and substitutes for them at least five of glass on each arm. These glass wristlets and her nose-ring form her *sohàg*, and a woman who has a husband living (*sohàgan*) must always wear them. When her husband dies, she breaks the wristlets off her arm, and throws the pieces and nose-ring on to the corpse, and they are wrapped up with it in the shroud. After that she may wear silver wristlets again. And occasionally, if a widow has plenty of grown up sons, she will continue to wear the *sohàg*.

The day before the procession is to start or arrive, as the case may be, the *mandà* or *mandab* is erected. At the boy's house they take five seed-stems of the long *sarkarà* grass and tie them over the lintel. They dig a hole in front and to the right of the threshold, put money in it, and stand a plough beam straight up in it. To this they hang two small cakes fried in *ghi*, with three little saucers under and two above this, and two pie, all tied on a thread. Finally, some five *beran* culms, and a *dogar*, or two vessels of water one on top of the other, are brought by the mother, attended by singing women, and after worship of the potter's wheel (*chàk*), are put by the door as a good omen. At the girl's house the same is done; but instead of burying the plough beam, they erect a sort of tent with one central pole, and four cross sticks, or a stool with its four legs upwards, at the top, and on each is hung a brass water-pot upside down surrounding a full one in the middle; or a curtained enclosure is formed, open to the sky, with at each corner a *lìchi* or "nest" of five earthern vessels, one on top of the other, with a tripod of bamboos over each.

On the same day the mother's brother of the boy or girl brings the *bhàt*. This is provided by the mother's father, and consists of a present of clothes; and necessarily includes the wedding suit for the

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Marriage preliminaries.

bride or bridegroom, and in the case of the boy, the loin-cloth and head-dress he is to wear at the marriage; for all that either party then wears must always be provided by his or her mother's brother. The boy's maternal uncle also brings a girl's suit of clothes and a wedding ring; and the girl wears *both* suits of clothes at the wedding. When the *bhát* is given, the boy's or girl's mother performs the ceremony of *áratá* or *minna*. She takes a five-wicked lamp made of flour, places it on a tray, and while her brother stands on a stool, waves it up and down his body from head to foot. She also performs *sewál*, which consists in picking up her petticoat and touching his body all over with it. They then take the brother in-doors and feed him on *laddús* or sweetmeat balls. The people then at the boy's village collect in the village common room and the *neotá* (see below) is collected, the *bhátí* (giver of the *bhát*) putting in his money first, which is a free gift and not entered in the account.

The wedding.

On the day when the marriage procession (*janet, barát*) is to start, the boy receives is last *bán* and is dressed in his wedding suit, the *kángná* or seven-knotted sacred thread is tied on his wrist, and his head-dress is tied on, consisting of a crown (called *mor*) of mica and tinsel, a *pechí* or band of silver tinsel over the turban, and a *sehra* or fringed vizor of gold tinsel. He then performs the ceremony of *ghurcharhí*. The barber leads him, while singing women-follow, and the mother with a vessel of water; and his sister puts her wrap over her right hand, and on it places rice which she flings at his crown as the boy goes along. He then gives her Re. 1, worships the gods of the homestead, and gives Re. 1 to the *Bairágí*. He is then put into a palanquin, and the procession, to which every house nearly related must contribute a representative, and which consists of males only, starts, as much as possible on horseback, with music of sorts. At each village they pass through they are met by the barber, *Dúm*, and-the Brahmans, whom they pay money to, and who put *dúbh* grass on the father's head, and pray that he may flourish like it. The procession must reach the girl's village after the mid-day meal.

A place, rigorously outside the village, has been appointed for them called *bág* or *goira*. The girl's relations come to meet them, bringing a lion-cloth and 11 *taká* and a little rice and sweetmeats in a tray. The two parties sit down, the Bráhmans read scared texts, the girl's Bráhman affixes the *líká* on the boy's forehead and gives a loin-cloth and 11 *taká*, taking a loin-cloth and 21 *taká* in exchange. The two fathers then embrace, and the girl's father takes Re. 1 from his turban and gives it to the boy's father, who gives him in exchange the cloth which is to form the *patká* at the wedding. The girl's father then asks the boy's father for either 11 or 14 pice, the *goira ka kharch*, or expenses of the *goira*; and these he distributes to the menial bystanders, and makes the boy's father pay something to the barber and Bráhman. The procession then proceeds to the girl's house, the boy being put on a horse and pice being thrown over his head as a scramble (*bakher*) for the menials. They do not go into the house; but at the door stand women singing and holding flour lamps. The boy is stood on a stool, and the girl's elder married sister, or if she has no married sister her brother's married

daughter, performs to him the ceremonies of *áratá* and *sewal* already described, and the boy's father gives her Rs. 1-4. She also performs the ceremony of *wárpher* by waving a pot of water over the boy's head and then drinking a little of it, and waving a rupee round his head. The girl's and boy's relations then fight for the stool on which the boy stood, and boy's relations win, and carry it off in triumph to the *jándalwásá* or *dándalwásá*, which is the place fixed for the residence of the guests. This *should*, in theory, be outside the village; but for convenience sake it is generally in the *chopál*. Presently the guests are bidden to the girl's house, where they eat; but the boy stays in the *jándalwásá*, as he must not enter the girl's house till the wedding itself. So, too, the girl's relations do not eat; for they cannot eat that day till the wedding ceremony is over. This ends the first day called *dhakáo*.

That night, at some time after sunset, the wedding ceremony (*pherá*) takes place. Shortly before it the girl's barber goes to the *jándalwásá*, where the boy's father gives him a complete suit of clothes for the girl, some jewels, sacred coloured strings to tie her hair up (*nálá*), some henna for her hands, and a ring called the yoke-ring (*juáki anguthi*). The girl wears nothing at all of her own, unless it be pair of scanty drawers (*dholá*); and she is dressed up in the above things, and *also* in the clothes brought in the *bhát* by her maternal uncle, one on top of the other. The ring she wears on the first finger; and on her head she wears the *cholásop*, or an unsewn and unhemmed reddish yellow cloth provided by her maternal grandfather used only at weddings, but worn after the ceremony till it wears out. Meanwhile her relations sit down with their Bráhman under the *mandá*.

There a place on the ground (*chaurí, bedí*) has been fresh plastered, and the Bráhman makes a square enclosure (*mandal or púrát*) of flour, and on it puts sand and sacred fire (*hawan*) of *dhák* wood and *ghi*, and sugar and sesame. Meanwhile the other party has been sent for; and the boy, dressed in the clothes brought by his maternal uncle, comes attended by his father and nearest relations only. They sit down to the north, the girl's people to the south, and two stools are placed facing the east, on which the boy and girl, who are fetched after all have sat down by her mother's brother, are seated each next his or her people, so that she is on his right hand. When the ceremony commences, the girl's people hold up a cloth for a minute so as to hide the boy and girl from the boy's people, "just as a matter of form." The Bráhman puts five little earthern pots (*kuliá*) in the sacred enclosure, and makes the boy and girl dip their third fingers into turmeric and touch pice, which he then puts into the pots, the boy offering twice as many as the girl. Sacred texts are then recited. The girl then turns her hand palm upwards, her father puts one rupee and a little water into it, and takes the hand and the rupee and solemnly places them in the boy's hand, saying "I give you my daughter; I give her virgin" (*main apni larki dún, kanya dún*). This is called *kanya dán*. Then the sacred fire is stirred up, the Bráhman ties the hem (*pallá*) of the girl's wrap to a piece of cloth called the *patká*, and the boy takes the latter over his shoulder and leads her round the fire counter-clockwise four times,

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Social Life.
The wedding.

and then she goes in front and leads him round three times. Meanwhile the family priests recite the tribe and clan of each, and the names of their ancestors for four generations. This is the *pherá*, and constitutes the real marriage. After this the Bráhmans formally ask each whether he or she accepts the other, and is ready to perform duties which are set forth in time-honoured and very impressive and beautiful language. The boy and girl then sit down, each where the other sat before; and this completes the ceremony. The bride and bridegroom are then taken into the girl's house, where the girl's mother unties the boy's head-dress and gives him a little *ghí* and *gur* mixed up. There two small earthen saucers have been fixed with flour against the wall, bottom outwards, and a lamp lighted in front of them. This they worship; the boy returns to the *jándalwásá* after redeeming his shoes, which the women have stolen, by paying Re. 1-4; while the girl stays with her people.

After ceremonies.

On the second day (*badhár*) the boy's people must not eat food of the girl's people; and they get it from their relations and friends in the village. Various ceremonies involving payment to Bráhmans and barbers are performed. At night the girl's father and friends go to the *jándalwásá*; the two fathers, who are now each other's *samdhís*, embrace; the girl's father gives his *samdhí* one rupee and invites the whole *barát*, including the boy, to eat at the girl's house. But when, after eating, they have returned to the *jándawásá*, the girl's friends follow them, and make them give a nominal payment for it called *rotí ka kharch*, which is given to the menials. On the third day, called *bidá*, the *neotá* is collected in the girl's house, just as it was in the boy's house before the *barát* started. The boy's people then eat at the girl's house, and return to the *jándalwásá*, whence they are presently summoned to take leave (*bidá honá*). The boy's father then presents a *barí*, which is a gift of sugar, almonds, sacred threads, fruits, &c., to the girl's people. The ceremony of *pattá* is then performed. The girl's relations form a *panchái*, or council, and demand a certain sum from the boy's father, from which the village menials then and there receive their fixed dues. The money is called *pattá*. The girl's *panch* having ascertained that all have been paid, formally ask the boy's father whether any one in the village has taken or demanded ought of him save this money; and he replies in the negative. During this ceremony the girl's father sits quite apart, as he must have nothing whatever to do with taking money from the boy's people, and in fact often insists upon paying the *pattá* himself. While the *pattá* is being distributed, the girl's mother makes the boy perform the ceremony of *band khulái*, which consists in untying one knot of the *mandá*. She then puts the *tíká* on his forehead and gives one rupee and two *ladús* (a sweetmeat made into a ball), and the other women also feed him. This is called *johárí*. Then the girl's father presents the *dàn* or dower, which includes money, clothes, vessels, &c., but no female jewels; and the *barát* returns to the *jàndalwásá*. The boy's father then visits all the women (*gotan*) of his own clan who live in the village, and gives each one rupee. The horses and bullocks are then got out, and should assemble at the outer gate of the village though they sometimes go to the door of the house for convenience. Her maternal uncle takes the girl, and, followed by women singing,

After-ceremonies.

places her in the ox-cart in which she is to travel. She is accompanied by a female barber called the *larumbí*, and the boy is kept apart. When they are just starting, the two fathers embrace, and the girl's father gives the other one rupee and his blessing ; but the girl's mother comes up, and having dipped her hand in henna, claps the boy's father on the back so as to leave a bloody mark of a hand (*thapá*) on his clothes. A few pice are scrambled over the heads of the happy pair ; and the procession starts for home, the girl screaming and crying as a most essential form.

When the *barát* reaches the boy's village, the friends are collected at the boy's door, which has five red marks of a hand on the wall on either side. The boy and girl are stood on the stool which the *barát* have brought from the other village, and the boy's mother measures them both with a *selá* or string made of the hair of a bullock's tail, which is then thrown away. She also performs the ceremony of *sewal*, and waves a vessel of water over their heads and drinks a little of it. The boy's sister stands in the doorway and will not admit them till the boy pays her one rupee. That night the boy and girl sleep on the floor, and above where they sleep are two mud saucers stuck, bottom outwards, against the wall, and a lighted lamp before them.

On the next auspicious day the girl puts on the wrap with the *patká* still knotted to it ; the boy takes it over his shoulder and leads her off, attended by women only and music, to worship the god of the homestead, the sacred *tulsí* tree, the small-pox goddess, and all the village deities, and the wheel of the potter, who gives them a nest of vessels for good luck. They go outside the village and perform *kesorá*, which consists in the boy and girl taking each a stick and fighting together by striking seven blows or more. Then comes the ceremony of *kángná khelna*. The girl unties the *kángná* or 7-knotted sacred thread which the Bráhman tied round the boy's wrist before he started, and he undoes hers. The *kángnás* are then tied to the girl's yoke-ring ; and it is flung by the boy's brother's wife into a vessel of milk and water with *dúbh* grass in it. The two then dip for it several times with their hands, the finder being rewarded with cheers.* Till this ceremony is performed, the boy and girl must sleep on the ground, and not on bedsteads. Then the boy's elder brother's wife (his *bhálí*) sits down, opens her legs, and takes the boy between her thighs. The girl sits similarly between the boy's thighs, and takes a little boy into her lap. The girl or his mother gives him two *laddús* ; and he says," a son for my sister-in-law, and two *laddús* for me." Some few days after a barber comes from the girl's village, and takes her back to her home.

Consummation of the marriage.

So far the bride and birdegroom are infants, and of course the marriage has not been consummated ; in fact, a child conceived at this stage would be illegitimate. The consummation takes place after the return of the girl to her husband's house, called *chállá* or *muklává*. This takes place when the girl is pubert ; but must be in either the 3rd, 5th, 7th, 9th, or 11th year after the wedding. The

* Among the Rájpúts there are two *kángnás*, one with a rupee and the other with betel-nut tied to it. This ceremony is performed with the former *kángna* at the girl's village the day after the *phera*, and with the latter as described above.

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Consummation of the marriage.

girl's people fix the day; and the boy with some male friends, but without his father, goes to fetch her. The girl then for the first time wears a large nose-ring, an armlet (*tadiá*), and a boddice or *ángí*. The girl's father gives her some clothes and jewels, and they go off home. As they start, the girl must scream and cry bitterly, and bewail some near male relation who has lately died, saying, "oh! my father is dead," or "oh! my brother is dead." After reaching home they live together as man and wife. The girl stays with her husband a few weeks only; and must then return to her father's home and stay there some six months or a year. She is then brought back for good by her husband, her father presenting her with her trousseau (*pitár*) of clothes and jewels. This she retains; but all clothes given by her father to the boy's father previous to this, at marriage or *challá*, must be divided among the female relation of the boy's father and not retained by him.

This is the course of affairs when the parties marry in infancy. But among Rájpúts who always marry late, and generally when the marriage has from any cause been delayed till puberty, there is no *mukláwá*, but on the third day, before the *barát* starts the ceremony of *patrá pherná* or changing the stools is performed. The girl changes all her clothes, putting on clothes provided by her father, and also a large nose-ring, armlets, and boddice. The boy and girl are then seated on stools, and exchange places, each sitting where the other was, and the *patká* is tied up. The girl's father presents both the dower and the trousseau at the same time; and the pair, on reaching home, live as man and wife.

Musalmán and other variations.

Among Musalmáns there is no *pherá*; the *nikáh* or Musalmán marriage ceremony being substituted for it, which the *qázi* reads in presence of witnesses. Envoys (*vakíls*) go into the girl's house to take her consent and come out and announce it, the boy consents himself three times, and the ceremony is complete. But among converts to Islám, at any rate, the other customs and ceremonies are almost *exactly* the same. Of late years the Musalmáns have begun to leave off the *sewal* and *áratá*, and they often use no *pechí*, though they retain the *sehrá*. Local and tribal variations are numerous, but quite unimportant. There are innumerable minutiæ which vary greatly, though quite constant for each tribe or locality. The Rájpúts never use a *mor*, nor have the custom of *thápá*; and the tent is often omitted from the *mandá* in the Khádar.

Relations following upon marriage.

The wife has to hide her face before all the elder brothers and other elder relations of her husband; not so before the younger ones—elder and younger, being, of course, a matter of genealogical degree, and not of age. Nor may she ever mention the name of any of the elder ones, or even of her husband himself.* When once the ceremonial goings and comings are over—among Rájpúts, for instance, where there is no *mukláwá*, directly the wedding is over—she may never return to her father's house except with his special leave; and if he sends for her, he has to give her a fresh dower. The village into which his daughter

* In one village there is a shrine to an ancestor who had died childless. It is known by his nick name, and not by his proper name, because the women of the family do not like to pronounce the latter.

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Relations following upon marriage.

is married is utterly tabooed for the father, and her elder brother, and all near elder relations. They may not go to it, even drink water from a well in that village; for it is shameful to take anything from one's daughter or her belongings. On the other hand, the father is continually giving things to his daughter and her husband as long as he lives. Even the more distant elder relations will not eat or drink from the house into which the girl is married, though they do not taboo the whole village. The boy's father can go to the girl's village by leave of her father, but not without.

The custom of *neotà*.

There is a curious custom called *neotà* by which all the branches of a family contribute towards the expenses of a marriage in any of its component households. If *A* and *B* are relations and *A* first marries his daughter, *B* will contribute, say Rs. 10. If *B* then marries his daughter, *A* must contribute more than this, or say Rs. 12. At further marriages, so long as the *neotà* consists between them, the contribution will always be Rs. 10, so that *B* will always owe *A* Rs. 2; but if either wishes to put an end to the *neotà*, he will contribute if *A*, only Rs. 8, if *B*, Rs. 12. This clears the account, and *ipso facto*, closes the *neotà*. The *neotà* is always headed by the *bhàti* or mother's brother; but his contribution is a free gift, and does not enter into the account, which is confined to the relations of the male line. These contribute even when the relationship is very distant indeed. This is the real *neotà*; and is only called into play on the occasion of the marriage of a daughter or son of the house. But in a somewhat similar manner, when the *bhàt* is to be provided by the mother's father, he sends a little *gur* to each *neotàrà* or person between whom and himself *neotà* exists; and they make small contributions, generally Re. 1 each. So, too, when the boy's father gives *gur* to his relations at his son's betrothal, they each return him Re. 1. The Rájpúts call the custom *bel* instead of *neotà*, and take it, in the case of the *bhàt*, only from descendants of a common great-grandfather.

Remarriage of widows.

A man may marry as often as the pleases. If he marries again on the death of his wife, he is called *dahejú*. The ceremonies are exactly the same for a man's different marriages. But under no circumstances can a woman perform the *pherà* twice in her life. Thus, among the Rájpúts, Bráhman and Tagás, who do not allow *karewà* or *karào*, a widow cannot under any circumstances remarry. But among other castes a remarriage is allowed under the above name. It is, in its essence, the Jewish Levirate; that is to say, on the death of a man his younger brother has first claim to the widow, then his elder brother, and after them other relations in the same degree; though *karewà* cannot be performed while the girl is a minor, and her consent is necessary. But it has been extended so that a man may marry a widow whom he could not have married as a virgin, the only restriction being that she is not of his own clan. Thus, a Gújar may marry a Játor Ror widow of any clan but his own. Neither marriage nor adoption, nor any other ceremony, can change the clan of a man or woman; that being, under all circumstances, the clan of the original father. Even women of menial castes can be so married; but the woman is then called *herì hùi* though it is still a real marriage. At the same time any

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Remarriage of Widows.

marriage out of one's own caste, even if with a higher one, is thought disgraceful. The marriage must not take place within a year of the husband's death. It is effected by the man throwing a red wrap over the woman's head and putting wristlets (*chúrá*) on her arm in presence of male and female members of the brotherhood. There is no *neotá* in *karewá*, because there are no expenses.

Death.

When a Hindu is on the point of death, he is taken off the bed and put with his feet to the east on the ground, on a fresh plastered spot strewn with the sacred *dúbh* grass and sesame. Ganges water and milk, and a tiny pearl (they can be bought for a few pice), and gold, are put into his mouth. The friends are called in, and the son or nearest heir shaves completely in public, draws water with his right hand alone, bathes, and puts on a clean loin-cloth, turban and handkerchief, and no other clothes. Meanwhile the widow has broken her *sohág*, and throws it on the corpse, while the men or women of the family, according to its sex, bathe it with the water the son has drawn, put on it a loin-cloth, and sew it up in a shroud (*guji* or *ghúgí*). They then place it on the bier (*arthí* or *pínjri*) and bear it out head foremost. At the door a Bráhman meets it with *pinds* (balls of dough) and water, which the son places on the bier by the head of the corpse. On the road they stop by a tank or some water, and *pinds* are again put on the bier. Then all the *pinds* are flung into the water, and the bier is taken up the reverse way, with the feet foremost. When they reach the burning place (*chhallá*) the corpse is placed on the pyre (*chita*), and the son taking sacred fire lit by the Bráhman, lights the wood (*dág dena*) and fans it. This is the *kiriá karm* so often mentioned. When the bone of the skull is exposed, the son takes one of the sticks, of which the bier was made, drives it through the skull (*kapál kiriá*) and throws it over the corpse beyond the feet. When the corpse is completely burnt, all bathe and return together to the house, and then go off to their homes. The burning should be on the day of death, if possible; but it should always be before sunset.

If the burning was performed on the bank of the Jamná, water is thrown on the ashes; if in the Kurukshetr, the bones are thrown into one of the sacred tanks, and all is over. Otherwise on the third day the knuckle-bones and other small fragments of bone (*phál*) are collected. If they can be taken to the Ganges at once, well and good; if not they are buried in the jungle. But they must not be brought into the village in any case; and when once ready to be taken to the Ganges, they must not be put down anywhere, but must always be hung up till finally thrown by a Bráhman into the stream. Their bearer, who must be either a relation, or a Bráhman, or Jhínwar, must sleep on the ground, and not on a bed, on his way to the Ganges. After the death a *gharú* of water with a hole in the bottom, stuffed with *dúbh* grass so that water will drip from it is hung in a *pípal* tree; and the water is filled, and a lamp lighted daily for 11 days.

The house is impure (*patak*) till the thirteenth day after death. On the tenth day the *Maha* Bráhman or *Acharj* comes. The household perform *dasáhí*; that is, they go to the tank, wash their clothes, shave, offer 10 *pinds*, and give the *Acharj* grain enough for 10 meals. On the eleventh or day of *sapindá*, a bull calf is let loose, with a trident

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(*tarsúl*) branded on his shoulder or quarter, to become a pest. The Acharj is seated on the dead man's bedstead, and they make obeisance to him and lift him up, bedstead and all. He then takes the bedstead and all the wearing apparel of the dead man, and goes off on his donkey. But he is held to be so utterly impure that in many villages they will not allow him to come inside, but take the things out to him. On the twelth day the Gújrátí Bráhman is fed, being given *sídhá* or the uncooked materials for dinner only, as he will not eat food cooked even by Gaur Bráhmans. On the thirteenth day the Gaur Bráhmans are fed, and then the whole brotherhood; the walls are plastered, the earthen vessels changed, all clothes washed, and the house becomes pure. If the man died on his bed instead of on the ground, the house is impure for 45 days; and after the eleventh day special ceremonies called *jap* have to be performed to purify it. Again, if he has died on certain inauspicious days of the month, called *panchak*, five or seven Bráhmans have to perform *barní* in order to ease his spirit. The same ceremonies are observed on the death of a woman. Children under 8 years of age are buried without ceremony. There are no particular ceremonies observed at the death of a Musalmán, who is, of course, buried with his feet to the south. *Gosáins* and *Jogís* are buried sitting up in salt; and used to be so buried alive before our rule. Their graves are called *samàds*. *Bairágís* are burnt, and in the case of an abbott a *samàd* erected over some of the bones. *Chamàrs* are burnt; while sweepers are buried upside down (*múndhá*).

Ceremonies for the repose of the spirit.

The disembodied spirit while on its travels is called *paret*; and remains in this state for one year making twelve monthly stages. For the first twelve days after death a lamp is kept lit, and a bowl of water with a hole in the bottom for it to drip from kept full in a *pípal* tree for the use of the spirit. At the end of each month the son gives his family priest the "monthly *ghará*," which consists of a *sídhá* or uncooked food for two meals, a *ghará* of water, a towel, an umbrella, and a pair of the wooden shoes (*kharàun*) used where the impure leather is objectionable. At the first anniversary of the death (*barsaudi*) he gives the Bráhman a bedstead and bedding, a complete suit of clothes, some vessels, and such other parts of a complete outfit as he can afford. This is called *sajju*. He also gives him a cow with a calf at foot, and some rupees in water.

Language.

Table No. VIII shows the numbers who speak each of the principal languages current in the district separately for each *tahsíl* and for the whole district. More detailed information will be found in Table No. IX of the Census Report for 1881, while in Chapter V of the same report the several languages are briefly discussed. The figures in the margin give the distribution of every 10,000 of the population by language, omitting small figures.

Language.	Proportion per 10,000 of population.
Hindustani	9,568
Bagri	3
Panjabi	426
All Indian languages	9,999
Non-Indian languages	1

The language of the district is Hindi, with a small admixture of Panjábi words, especially in the northern portion. The dialect varies slightly from north to south; and especially the Játs of the

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Language.

southern border use many words not used in the rest of the district, with a pronunciation and accent quite peculiar to them. A curious instance of the formation of inflections is afforded by the local use of the verb *sùn, so, sai, sain*, for *hùn, ho, hai, hain*. The *s* is frequently affixed to the end of the verb, and the remainder of the auxiliary dropped. Thus "*sára dàngar kál ho rahiá*:" all the cattle are starving, instead of "*ho raha sai*." Panjábí is spoken in the villages scattered through the Patiálá territory and in the Guhlá *thána* on the borders of Patiálá; it is almost confined to Sikhs. The small Púrbiá-speaking population is mostly found in the town of Karnál, and owes its origin to followers of troops coming from the east which were stationed in Karnál when it was a cantonment 40 years ago. The Márwáris are mostly the Bohra traders, who have invaded this district of late years. The Bengálís are Government servants or their families, and the Bágri-speakers are poor people who have been driven from time to time in this direction by famine, and their descendants.

Education.

Table No. XIII gives statistics of education as ascertained at the Census of 1881 for each religion and for the total population of each *tahsíl*. The figures for female education are probably very imperfect indeed. The figures in the margin show the number educated among every 10,000 of each sex according to the Census returns. Statistics regarding the attendance at Government and aided schools will be found in Table No. XXXVII.

	Education.	Rural population.	Total population.
MALES.	Under instruction ..	48	81
	Can read and write ..	322	394
FEMALES.	Under instruction ..	0·3	2·2
	Can read and write ..	1·5	3·1

The distribution of the scholars at these schools by religion and the occupations of their fathers, as it stood in 1881-82, is shown in the margin.

Details.	Boys.	Girls.
Europeans and Eurasians	..	..
Native Christians ..	..	..
Hindus ..	923	..
Musalmans ..	666	..
Sikhs ..	16	..
Others ..	..	..
Children of agriculturists	1,042	..
" of non-agriculturists	563	..

The villagers are, as a mass, utterly uneducated. A considerable number of the headmen can read and write Mahájani, or Hindi as they call it, to some extent; but many of them do not know even that, and not a dozen of them can write the Persian character. Outside the ranks of the headmen the people are almost wholly illiterate. Many of them cannot count beyond 20, and would represent 64 as three scores and four. It is very difficult for a villager to send his boy to school unless there is one in or quite close to his village; and even when this is the case they object to sending their sons to school, because, they say, it renders them discontented with, and unfits them for their position. The Persian, especially, they object to. Mr. Ibbetson writes:—

"I believe that if the teaching in the village schools was confined to arithmetic, and to reading and writing in the Mahájani and Persian characters without any study of the Persian language—was, in fact, really elementary—and if the number of schools was considerably increased, as

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Education.
Poverty or wealth of the people.

probably might then be done without additional expense, the attendance would soon rise; while provision might still be made for the further education of exceptionally promising lads."

It is impossible to form any satisfactory estimate of the wealth of the commercial and industrial classes. The figures in the margin show the working of the income tax for the only three years for which details are available; and Table No. XXXIV gives statistics for the licence tax for each year since its imposition. The distribution of licenses granted and fees collected in 1880-81 and 1881-1882 between towns of over and villages of under 5,000 souls, is shown in the margin. But the numbers affected by these taxes are small. It may be said generally that a very large proportion of the artisans in the towns are extremely poor, while their fellows in the villages are scarcely less dependent upon the nature of the harvest than are the agriculturists themselves, their fees often taking the form of a fixed share of the produce; while even where this is not the case, the demand for their products necessarily varies with the prosperity of their customers. Perhaps the leather-workers should be excepted, as they derive considerable gains from the hides of the cattle which die in a year of drought. The circumstances of the agricultural classes are discussed below in section E of this chapter.

Assessment.		1869-70.	1870-71.	1871-72.
Class I	Number taxed ..	596	554	201
	Amount of tax ..	5,834	10,803	1,729
Class II	Number taxed ..	74	195	75
	Amount of tax ..	1,440	5,265	946
Class III	Number taxed ..	26	60	29
	Amount of tax ..	1,244	2,345	947
Class IV	Number taxed ..	5	10	5
	Amount of tax ..	2,391	533	1,716
Class V	Number taxed ..	..	30	..
	Amount of tax ..	..	2,858	..
Total ..	Number taxed ..	601	849	310
	Amount of tax ..	10,909	21,801	5,338

	1880-81.		1881-82.	
	Towns.	Villages.	Towns.	Villages.
Number of licenses ..	188	536	194	691
Amount of fees ..	2,570	8,020	3,095	8,665

Character and disposition of the people.

The character and disposition of the people is thus described by Mr. Ibbetson:—

"I have a great liking for the ordinary villager. His life is one of monotonous toil under very depressing circumstances. He grumbles much, but only as a farmer is bound to do; and he is marvellously patient, cheery and contented on the whole. He is often exceedingly intelligent considering his opportunities, he is hospitable in the extreme, and he loves a joke when the point is broad enough for him to see. His wants are easily satisfied; he has formulated them thus:—

"*Das chnge bail dekh, wa das man berri;*
"*Haqq hisabi nya, wa sák sir jeori;*
"*Bhúri bhaine ka dúdh, wa rábar gholna;*
"*Itná de kartár; to bohr na bolna.*"

"Let me see ten good oxen and ten maunds of mixed grain, the milk of a grey buffalo and some sugar to stir into it, a fair assessment demanded after the harvest. God give me so much, and I won't say another word.

"I will even say that according to his standard he is moral, though his standard is not ours. The villager looks at the end, and not at the means. If he honestly thinks that his friend is in the right in his claim,

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Character and disposition of the people.

a respectable man will tell any number of circumstantial lies to produce the same impression on the mind of the Judge. But if he thinks him in the wrong, he will not bear evidence either for or against him; he will say that he knows nothing about the matter. And when formally confronted by the whole brotherhood, a villager will rarely persist in a claim which he knows to be false. Of the good faith that governs the mass of the people in their dealings with one another, it would, I believe, be difficult to speak too highly, especially between members of the same community. Of their sexual morality, I can say nothing. If scandals are common, we hear but little of them, for they are carefully hushed up. My impression is that the village life is infinitely more pure in this respect than that of an English agricultural village; partly, no doubt, because of the early marriages which are customary.

"The loyalty of the people in the tract is, I think, beyond suspicion. They remember the horrors of the days of anarchy which preceded our rule too vividly to be anything else. Two points in our administration, however, are especially complained of by them. They complain bitterly of Native Judges; and say that since their authority has been extended, *andher hone lagà*, it has begun to grow dark. And they object to our disregard of persons, and to our practical denial of all authority to the village elders. They say that a headman now-a-days cannot box the ears of an impertinent village menial without running the risk of being fined by the Magistrate; and I think it can hardly be denied that, in many respects, our refusal to recognise the village as a responsible unit is a mistake; while where we do partly enforce the system of joint responsibility, we wholly deny to the people the privilege of joint government."

Tables Nos. XL, XLI and XLII give statistics of crime; while Table No. XXXV shows the consumption of liquors and narcotic stimulants.

SECTION C.—RELIGIOUS LIFE.

General statistics and distribution of religions.

Table No. VII shows the numbers in each *tahsíl* and in the whole district who follow each religion, as ascertained in the Census of 1881, and Table No. XLIII gives similar figures for towns. Tables Nos. III, IIIA, IIIB of the Report of that Census give further details on the subject. The distribution of every 10,000 of the population by religions is shown in the margin. The limitations subject to which these figures must be taken, and especially the rule followed in the classification of Hindus, are fully discussed in Part I, Chapter IV of the Census Report. The distribution of every 1,000 of the Musalmán population by sect is shown in the margin. The sects of the Christian population are given in Table No. IIIA of the

Religions.	Rural population.	Urban population	Total. population
Hindu ..	7,602	5,096	7,286
Sikh ...	142	38	130
Jain ...	65	142	75
Musalmán ...	2,190	4,718	2,508
Christian ...	1	6	1

Sect.	Rural population.	Total population.
Sunnís	984	983
Shiáhs	12·1	13·6
Others and unspecified ...	3·9	3·4

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Census Report; but the figures are, for reasons explained in Part VII, Chapter IV of the Report, so very imperfect that it is not worth while to reproduce them here.

General statistics and distribution of religions.

Table No. IX shows the religion of the major castes and tribes of the district, and therefore the distribution by caste of the great majority of the followers of each religion. A brief description of the great religions of the Panjáb and of their principal sects will be found in Chapter IV of the Census Report. The religious practice and belief of the district present no special peculiarities; and it would be out of place to enter here into any disquisition on the general question. The general distribution of religions by *tahsíls* can be gathered from the figures of Table No. VII; and regarding the population as a whole no more detailed information as to locality is available. Practically the religions of the district reduce themselves to two. There are few Sikhs or Christians, and no Buddhists; only an occasional Jain is to be seen; the Saráogís, who have two fine temples in Pánípat are almost confined to the towns, and wholly, to the *Banyá* caste; and the village communities are, almost without exception, either Musalmán or Hindu. Among Hindus are included the sweeper caste, who would not be recognised by Hindus proper as belonging to their religion. A brief description of their worship will be found at pages 87-88.

Musalmáns.

The Musalmáns of the district must be divided into two very distinct classes. The original Musalmáns, such as Saiyads, Patháns, Qoreshi, Shekhs, and Mughals, are strict followers of Islám. In the villages a few laxities have crept in; but in the main their religion and its customs are those of all Musalmáns, and we need say no more about them. But the case is very different with the Musalmán Rájpúts, Gújars, and similar converts from Hinduism. Their conversion dates, for the most part, from the close of the Pathán, and the early days of the Mughal dynasty. Many of them are said to have been converted by Aurangzeb; and these were probably the last made, for the change of faith always dates from at least eight generations, or 200 years back, and proselytism was, of course, unknown under the Sikhs and Mahrattás. In some cases the whole community of a village is Musalmán; but quite as often one branch has abandoned, and the other retained their original faith, and in no case has any considerable group of villages embraced Islám as a whole.

Living thus side by side with their Hindu brethren in the same or the next village, sharing property in the same land, and forming a part of the same family with them, it is impossible that the Musalmán converts should not have largely retained their old religious customs and ideas. In fact, till some 25 years ago, they were Musalmán in little but name. They practised circumcision, repeated the *kalmà*, and worshipped the village deities. But after the mutiny a great revival took place. Muhammadan priests travelled about preaching and teaching the true faith. Now almost every village in which Musalmáns own any considerable portion has its mosque, often of adobe only; and all the grosser and open idolatries have been discontinued. But the local deities and saints still have their shrines, even in villages held only by Musalmáns; and are still worshipped by the majority, though the practice is gradually declining. The women, especially, are offenders in this way. A Musalmán woman who had

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not offered to the small-pox god would feel that she had deliberately risked her child's life. Family priests are still kept up as of old ; and Bráhmans are still fed on the usual occasions. As for superstitions, as distinct from actual worship, they are untouched by the change of faith, and are common to Hindu and Musalmán.

Hindus.

The student who, intimately acquainted with the Hindu Pantheon as displayed in the sacred texts, should study the religion of the Hindus of the district, would find himself in strangely unfamiliar company. It is true that all men know of Shiv and of Vishnu;* that the peasant, when he has nothing else to do to that degree that he yawns perforce, takes the name of Náráin ; and that Bhagwán is made responsible for many things not always to his credit. But these are the lords of creation, and too high company for the villager. He recognises their supremacy ; but his daily concerns in his work-a-day-world are with the host of deities whose special business it is to regulate the matters by which he is most nearly affected.

Minor deities.

These minor deities, whose cult comprises the greater part of the peasant's religious ideas and acts, may be broadly divided into four classes. First come the benevolent deities, such as the Sun, the Jamná, Bhúmiá, Khwájá Khizr, and the like. Then the malevolent deities, mostly females such as the Small-pox Sisters, Snakes, the Fairies, &c. Then the sainted dead, such as Gúgá, Lakhdátá, and Báwá Faríd ; and finally, the malevolent dead, such as Saiyads (Shahíds). It is a curious fact that most of the malevolent deities are worshipped chiefly by women, and by children while at their mother's apron. Moreover, the offerings made to them are taken not by Bráhmans, but by impure and probably aboriginal castes,† and are of an impure, nature, such as *chúrmás*, fowls, and the like. And they are seldom or never worshipped on Sunday, which is the proper day for the benevolent Hindu deities. The primæval Aryan invaders must have inter-married, probably largely, with the aboriginal women ; and it is a question to which inquiry might profitably be directed, whether these deities are not in many cases aboriginal deities. Even setting aside the theory of inter-marriage, it would be natural that the new comers while not caring to invoke the aid of the beneficent *genii loci*, might think it well worth while to propitiate the local powers of evil upon whose territory they had trespassed. In this very spirit the Hindus have adopted the worship of the Muhammadan saints, and especially of the more malevolent ones. It can do no harm to worship them, while they may be troublesome if not propitiated ; and all these saints are commonly worshipped by Hindus and Muhammadans alike.

Effect of Islám upon Hinduism.

There can be no doubt that the presence of Islám by the side of Hinduism has had considerable effect upon the latter. The Hindu villager, when asked about his gods, will generally wind up by saying "after all there is but one great one (*sáhib*)," and they generally give the information asked for with a half smile, and will often shake their finger and say it is a *kachchá* religion. Of course the existence of

* Brahma is never mentioned save by a Bráhman ; and many of the villagers hardly know his name.

† In some cases the Bráhmans will consent to be fed in the name of a deity, when they will not take offerings made at his shrine. And they will in some villages allow their *girls* to take the offerings, for if they die in consequence it does not matter much. Boys are more valuable, and must not run the risk.

such a feeling is exceedingly compatible with the most scrupulous care not to neglect any of the usual observances; and whatever might be his private convictions or absence of conviction, a man would feel that it would be pre-eminently unsafe to omit the customary precautions, and would be thought ill of if he did so.

The sect of *Sàdhs*.

There is a new sect called *Sàdh*, confined to the Játs, which has made some little progress in the district, two whole villages having entered it. It was founded by one Ude Dás, and its head-quarters are at Farrúkhábád. The sectarians are free-thinkers, and as they can see no gods, worship none. Their only ceremonial consists in large public dinners, especially on the Púran Máshi festival. They abjure tobácco and affect special personal cleanliness. They only marry and eat with one another, but they give their daughters to other Játs.

Shrines.

Temples proper are built only to Vishnu and Shiv, and hardly ever by the villagers, who content themselves with making small shrines to the local deities. The ordinary Hindu shrine must face the east. It is ordinarily built in the shape either of a rectangular prism capped by a pyramid, or of a cylinder with a bulbous head and pointed finial, and is often only some 12 inches square. It is often surmounted by an iron spike (*sìnk*). It is generally hollow, with a small door-way in front and at the bottom. The Muhammadan shrine faces the south, and is in the form of a grave with nitches for lamps, and often has flags (*dhajà*) over it. If the shrine of a dead Musalmán is large enough to go into, you must be careful to clap your hands (*tàli bajànà*) before opening the door, as these gentry sometimes sit on their tombs in their bones to take the air, and have been discovered in that condition,—an occurrence which they resent violently. Not unfrequently a tree, generally a *pìpal* or *jand*, takes the place of a building; or even merely a fixed spot called *thapwà*. In two villages the distinction between the two classes of shrines has given rise to delicate questions. In one a branch of the family had been converted to Islám after the settling of the village; and when it was proposed to erect a shrine to the common ancestor, who was of course a Hindu, there was much dispute about the form to be adopted. The difficulty was overcome by building a Muhammadan grave facing the south, and the Hindu shrine over it with the door to the east. In another village an Imperial trooper was once burnt alive by the shed in which he was sleeping catching fire. He was originally a Musalmán; but he had been burnt and not buried, which seemed to make him a Hindu. After much discussion the latter opinion prevailed; and a Hindu shrine, with an eastern aspect, now stands to his memory.

Modes of worship.

The most ordinary form of worship is a salutation made by joining the hands palm to palm, and raising them to the forehead (*dhok màrnà*). A villager does this whenever he passes the shrine of a village deity. In one village the mason who built the new common room, threw in, as a thank-offering for the completion of the work, a wooden Englishman who still sits on the top of the house; and though the rain has affected his complexion much for the worse, the people always salute him on coming out of their houses in the morning. There is also *chichkàrnà*, which consists in touching first the object to be worshipped, and then the forehead, with right hand. Another

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Modes of worship.

form of worship is to scoop out a little hollow in the earth by the shrine and fling the soil on to a heap.* This is called *matti kádná*, and seems very much analogous with the common custom of flinging stones on to a cairn. It is practised chiefly in honour of ancestors and fairies, and heaps of mud raised in this way by a shrine sometimes reach a height of 8 feet. The person doing this will often say to the god "I will dig you a tank;" and perhaps the custom has its origin in the honour attachable to the maker of a tank in this thirsty land; but it is equally possible that this is only a local explanation of a custom brought from a more stony country, and the origin of which has been forgotten, for hundreds of our villagers have never seen a stone in their lives.

Offerings.

Offerings (*charháwá*) generally take the form of a little gram, or milk, or cooked food, or a few sweetmeats offered in front of the shrine in small saucers or jars, the remainder of the offering being given to the appropriate receiver. Libations are not uncommon; and a white cock is sometimes killed. And in many cases Bráhmans are simply fed in the name of the god. Offerings of cooked food may be divided into two classes. To the benevolent gods or to ancestors, only *pakkí rotí*, that is cakes or sweets fried in *ghí*, may be offered; while to the malevolent and impure gods, *kachchí rotí*, generally consisting of *chúrmá*, or stale bread broken up and rolled into balls with *gúr* and *ghí*, is offered. Bráhmans will not take the latter class of offerings. Vows (*kabúl*) are common, the maker promising to build a shrine or feed so many Bráhmans in the event of his having a son, or recovering from illness, or the like.

Possession, divination, and exorcism.

When a villager is ill, the disease is generally attributed to the influence (*opri jhapet*) of a malevolent deity, or of a ghost (*bhút*) who has possessed him (*lipat* or *chipat* or *pilach jáná*). Recourse is then had to divination to decide who is to be appeased, and in what manner. There is a class of men called *bhagats* or *syáná* (literally, knowing ones) who exercise the gift of divination under the inspiration of some deity or other, generally a snake-god or Saiyad. The power is apparently confined to the menial (aboriginal ?) castes, is often hereditary, and is rarely possessed by women; it is shown by the man wagging his head and dancing; and he generally builds a shrine to his familiar spirit, before which he dances. When he is to be consulted, which should be at night, the inquirer provides tobacco and music. The former is waved over the body of the invalid, and given to the *bhagat* to smoke, and the music plays, and a *ghí* lamp is lighted, and the *bhagat* sometimes lashes himself with a whip; under which influences the soothsayer is seized by the afflatus, and in a paroxysm of dancing and head wagging, states the name of the malignant influence, the manner in which he is to be propitiated, and the time when the disease may be expected to abate. Another mode of divination is practised thus. The *syáná* will wave wheat or *jawár* over the patient's body, by preference on Saturday or Sunday; he then counts out the grains one by one into heaps, one heap for each god who is likely to be at the bottom of the mischief,

* In the Panjáb these heaps of mud flung up in memory of deceased ancestors are called *jathera*, from *jeth*, a husband's elder relative.

and the deity on whose heap the last grain comes is the one to be appeased. The waving the grain or tobacco over the patient's body is called *chunná*; the counting the grains, *kewalé*.

Possession, divination, and exorcism.

The malignant deity is appeased by building him a new shrine or by offerings at the old one. Very often the grain to be offered is put by the head of the sufferer during the night and offered next day; this is called *orrá*. Or the patient will eat some and bury the rest at the sacred spot, or the offerings will be waved over the patient's head (*bárná*) before being offered; or on some moonlight night while the moon is still on the wax, he will place his offering with a lighted lamp on it at a place where four roads meet; this is called *lángri* or *nagdi*. Sometimes it is enough to tie a flag on the sacred tree or to roll on the ground in front of the shrine, or to rub one's neck with the dust of it. Boils can often be cured by stroking them with a piece of iron and repeating the name of the deity concerned. Witchcraft proper (*jádú*) is principally practised by the lowest castes, and you hear very little of it among the villagers.

Vishnu, Rám, Náráin.

The Hindus of the district are Vaishnavas, though Vishnu is hardly recognized by them under that name. But under the name of Rám and Náráin he is the great god of the country. Temples to him (*thákurdwárá*) exist in several of the larger villages, generally built by Bráhmans or *Bairágís*, and almost always insignificant. He is worshipped under the name of Rám by Rájpúts only; under the name of Náráin by other castes. On the 11th of Kátik or *devuthni gyaras*, when the gods wake up from their four months' sleep, Bráhmans are fed in his name; and on the 8th of Bhádon (*Janamashtmi*), such villagers as have fasted, which no man working in the fields will have done, will generally go to the *thákurdwára* and make an offering. And on some Sunday in Bhádon they will feed a few Bráhmans in his name, Bráhmans and *Bairágís* take the offerings.

Shiv, Mahádev.

Shiválás are not at all uncommon in the villages, built almost without exception by *Baniás*. The priests are *Gosáins* or *Jogís*, generally of the *kanphate* or ear-pierced class, and they take the offerings. No Bráhmans can partake of the offerings to Shiv, or be priest in his temple, though they will worship him and sometimes assist in the ceremonies, thus deviating from the strict rule of the original cult. On the *Sheorátri*, on the 13th of Sáwan and Phágan, such people as have fasted will go to the *Shiwála*; but it is seldom entered on any other days.

Súraj Devata, or the Sun-god.

This is the god whom the people chiefly delight to honour. Any villager if asked whom he worships most will mention him. No shrine is ever built to this god. Sunday is of course the day sacred to him. On Sunday the people do not eat salt; nor do they set milk for *ghí*, but make it into rice-milk, of which a part is given to the Bráhman in honour of the Sun; and a lamp is always burnt to him on Sunday. Bráhmans are fed every now and then on Sunday in his name, and especially on the first Sunday after the 15th of Sárh, when the harvest has been got in, and the agricultural year is over. Before the daily bath water is always thrown towards the Sun (*argh*);* and every good man, when he first steps out of doors in the morning, salutes the Sun, and says *dharm ko sahai rakhye súraj mahárái*, or "keep me in the faith, oh Lord the Sun!" Bráhmans take the offerings.

* This is done to the new moon too on the evening of her appearance, if one thinks of it.

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The Jamná.

After the Sun comes the River Jamná, always spoken of as *Jamná Jí;* and so honoured that even when they complain of the terrible evils brought by the canal, which is fed from the river, they say they spring *Jamná Jì kì dosti se*, "from Lady Jamna's friendship." There are no shrines to the Jamná; but the people go and bathe in the river, or if unable to go so far, in the canal on the *mekhs* or *sakrànts* in Chet and Kátik, on the Dusahra of Jeth, and on the 15th of Kátik, or every day in that month if near enough. And Bràhmans are constantly fed on Sunday in honour of *Jamna Jí*, and take all offerings.

Dharti Mátá or Mother Earth.

Every morning, when a man first gets off his bed, he does obeisance to the earth, and says *sukh rakhiyo Dharti Màtà*, "preserve me Mother Earth." When a cow or buffalo is first bought, or when she first gives milk after calving, the first five streams (*dhàr*) of milk are allowed to fall on the ground in her honour, and at every time of milking the first stream is so treated. So when medicine is taken, a little is sprinkled in her honour. So at the beginning of ploughing and sowing obeisance is made to her and she is invoked.

Bhúmiá or the god of the homestead.

The *Bhùmia* should, from his name, be the god of the land, and not of the homestead. But he is, in these parts, emphatically the god of the homestead or village itself, and is indeed often called *Khera* (a village) and *Bhùmia* indifferently. In one or two villages a god called *Bhairon* or *Khetrpàl* (field-nourisher) is worshipped; but, as a rule, he is unknown. When a new village is founded, the first thing of all is to build a shrine to *Bhùmia* on the site selected. Five bricks are brought from the *Bhùmia* of the village whence the emigrants have come; three are arranged on edge like the three sides of a house, the other two are put over them like a gable roof, an iron spike is driven in, five lamps are lighted, five *laddùs* are offered, Bráhmans are fed, and the shrine built over the whole. In many cases, where two villages had combined their homesteads for greater security against the marauders of former days, the one which moved still worships at the *Bhùmia* of the old deserted village site. *Bhùmia* is worshipped on Sunday. They burn a lamp and offer a cake of bread at the shrine, and feed Bráhmans. This is always done twice a year, after the harvests are gathered in; and also on other occasions. *Bhùmia* is also worshipped at marriages; and when a woman has had a son, she lights lamps and affixes with cowdung five culms of the *panni* grass, called *beran*, to the shrine. So too the first milk of a cow or buffalo is always offered to *Bhùmia*. Women commonly take their children to worship *Bhùmia* on Sunday. The shrine is very usually built close to the common room; and the only villages in which there is not one are held wholly by Saiyads. Bráhmans take the offerings.

Khwája Khizr, the Water-God.

Khwája Khizr is the local god of water; though the name really belongs to one of the Muhammadan prophets, whose special duty it is to take care of travellers. He is worshipped more in the Khádar than in the Bángar, and especially on Sunday. Twice a year after the harvests he is worshipped at the well, lamps being lighted and Bràhmans fed. And on the festivals of Holi and Díwálí, a raft called *langri* is made of the *beran* just mentioned, and a lighted lamp put on it and set afloat on the tank in his honour. The ceremonies attending the building a well are described in

Chapter IV, (Section A). Bráhmans take the offerings to Khwája Khizr, though they are occasionally given to the water-carrier or Jhínwar.

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Pitr or ancestors.

Among the Gújars especially, tiny shrines to the ancestors are common all over the fields; and among other castes they will be found in every village. Occasionally the shrine is to the gentile ancestor, and built upon a brick brought from his shrine at the place of origin, as with the Jaglán and Sandú Játs. Mud is always flung up to these shrines. And all the people feed Bráhmans in honour of their ancestors on the 15th of the month (*máwas*), and especially in the *kanágat*, or the 16 days previous to and including the *máwas* of *Asauj*, which are specially sacred to the *pitr*. Cattle are never worked on *máwas*.

Sattis.

There are a great number of *sattís* or places where widows have been burnt on their husbands' pyres all over the country. They are generally marked by shrines much larger than any other kind, being 3 or 4 feet square. Lamps are lit and Bráhmans fed at them on the 11th or 15th of Kátik. In one case Tagás, who had emigrated from their old village, used yearly to come more than 40 miles to offer at their old *sattí* till quite lately, when they took away a brick from the *sattí* and used it as the foundation of a new *sattí* at their present village, which answered all purposes. This is always done in the event of emigration. Bráhmans take the offerings.

The *gyáls* or sonless dead.

When a man has died without a son (*út nápút jana*) he becomes a *gyál* or *út*, and is particularly spiteful, especially seeking the lives of the young sons of others. In almost every village small low platforms (*bhorka, báuka*) with saucer-like depressions in them, are made to the *gyáls*; and on the *máwas*, and especially on Díwálí or the *máwas* of Kátik (but *not* in the *kanágat*, which is sacred to the *pitr*), the people pour Ganges-water and cow's milk into these saucers, and light lamps and feed Bráhmans, and dig mud by them. It is more than probable that *bhorkás* are identical in origin and signification with the "cup-marks" which have so puzzled antiquaries. Bráhmans take the offerings. Young children often have a rupee hung round their necks by their mothers in the name of the *gyáls*.

The *sítala* or small-pox group.

The pustular group of diseases is supposed to be caused by a band of seven sisters, of whom Sítala or Máta, the goddess of small-pox, is the greatest and most virulent. Others of the group are Masáni, Basanti, Mahá Máí,* Polamde, Lamkaria, and Agwáni or the little one who goes in front of all. But the general form the shrine takes in a village is that of a large one for Sítala, and a number of others for the sisters, of whom the people will know the name of only one or two. *Basanti* is a new addition to the group, the disease having quite lately come from the hills. They are sometimes called Sri Sítala, Máí Masáni, Bari Basanti, and so forth. The people profess to distinguish the disease due to each; but it is impossible to find out what they are, except small-pox, which is undoubtedly due to Sítala.

There are seven principal shrines to these deities at Pátri, Kábri, Beholi, and Siwá of this district; Bidhlun near Bhatgánw, Birdhána

* This is properly a name of Devi who drives people mad; and is worshipped by some, but not very generally, on the 8th of Chet and Asauj.

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The *sítala* or small-pox group.

near Jhajjar, and at Gurgáon itself. They are never worshipped by men, but only by women and children of both sexes up to the age of 10 or 12. Enormous crowds collect at these shrines on the 7th of Chet which is called *síl* or *síli saten*, or Sítala's 7th. Besides this, *Phág* or *Dolendhí*, the day after the *Holi* festival, is a favourable day, and any Monday, especially in Chet or Sárh. Sítala rides upon a donkey; and gram is given to the donkey and to his master the potter at the shrine, after having been waved over the head of the child. Fowls, pigs, goats, cocoanuts, and *chúrmá* are offered, and eaten by sweepers and Hindu *Jogís*, and white cocks are waved and let loose. An adult who has recovered from small-pox should let a pig loose to Sítala, or he will be again attacked. During an attack no offerings are made; and if the epidemic has once seized upon a village all offerings are discontinued till the disease has disappeared, otherwise the evil influence (*chhot*) will spread. But so long as she keeps her hands off, nothing is too good for the goddess, for she is the one great dread of Indian mothers. She is, however, easily frightened or deceived; and if a mother has lost one son by small-pox, she will call the next *Kurriá*,* he of the dunghill; or *Báharú*, an outcast; or *Márá*, the worthless one; or *Bhagwáná*, given by the great god. So, too, many women dress children in old rags begged of their neighbours, and not of their own house, till they have passed the dangerous age.

The *saiyads* (*Shahids*) or martyrs.

The country is covered with small shrines to Musalmán martyrs; properly *Shahids*, but called *Saiyads* by the villagers. There was a Rájá Thárú in the Nardak, after whom several villages are still called Tharwá, and who dwelt in Hábri. He used to levy seignorial rights from virgin brides. One night the daughter of a Bráhman suffered thus. Her father appealed for help to Mirán Sáhib a Saiyad, who collected an immense army of Saiyads, Mughals and Patháns, and vanquished the Rájá. The fight extended over the whole country to Dehli; and the Saiyad shrines are the graves of the Musalmáns who fell. But a favourite prescription in sickness is to build a shrine to a Saiyad, whose name is often not even given, and when given, is almost always purely imaginary; so that the Saiyad shrines are always being added to, and most of them are not connected with any actual person. Lamps are commonly lit at the shrines on Thursdays; but offerings are seldom made except in illness or in fulfilment of a vow; they often take the form of a fowl or a goat or especially a goat's head (*siri*), and they are taken by Musalmán *faqírs*. Saiyads are very fond of blue flags. One of the Imperial *kos minárs* or milestones has been transformed into a Saiyad's shrine by the people of Karnál city and every Thursday evening there are worshippers, and *faqírs* to profit by them. The Saiyads are very malevolent, and often cause illness and death. One Saiyad Bhúrá, who has his shrine at Barí in Kaithal, shares with Mansa Devi of Mani Májrá the honour of being the great patron of the thieves in this part of the Panjáb; and a share of the booty is commonly given to the shrine. Boils, especially, are due to them: and they make cattle miscarry.

The *Singhs* or snake-gods.

There is a group of *Nágans*, or female Snake-deities, known as *Singhs* by the people, and especially called *Deratá* or godling. They are almost always distinguished by some colours; and the most

* Compare Two penny, Huitdeniers, &c.

The *Singhs* or Snake-gods.

commonly worshipped are *Káli*, *Hari* and *Bhúri Singh*, or black, green, and brown. But here again the *Bhagat* will often direct a shrine to be built to some *Singh* whom no one has even heard of before; and so they multiply in a most confusing way. They are servants of Rájá Básak Nág, King of Patál or Tartarus. Dead men also have a way of becoming snakes—a fact which is revealed in a dream, when a shrine must be built. Their worship extends all over the district, and is practised by all castes; but most of all by Gújars, and in the Khádar. If a man sees a snake he will salute it; and if it bite him, he or his heirs, as the case may be, will build a shrine on the spot to prevent a repetition of the occurrence. But independently of this, most villages have shrines to them. Sunday is their day; and also the 9th of Bhádon in particular, when most people worship them. Bráhmans do not mind being fed at their shrines, but will not take the offerings, which go to Hindu *Jogís*. Both men and women worship them, especially at weddings and births, and offer *chúrmá* and flags (*dhajá*). They cause fever; but are not on the whole very malevolent, and often take away pains. They have great power over milch cattle; the milk of the 11th day after calving is offered to them; and libations of milk are very acceptable to them. They are certainly connected in the minds of the people with the *pitrs* or ancestors, though it is difficult to say exactly in what the connection lies. Wherever the worship of the *pitrs* is most prevalent, there the snake-gods also are especially cultivated. The snake is the common ornament on almost all the minor Hindu shrines.

Gúgá Pír.

Gúgá or *Jáhir Pír*, or *Bágarwala*, though a Musalmán, is supposed to be the greatest of the snake-kings. He is buried near Hissár, but is worshipped throughout the district. The 9th and 15th of Bhádon, especially the former, are his days; and generally the 9th of any month; and also Mondays. His shrine is usually a cubical building with a minaret on each corner, and a grave inside. It is called a *márí*, and is marked by a long bamboo with peacock plumes, a cocoanut, some coloured thread, and some hand-*pankhas* (*bíjná*) and a blue flag on the top. This is called his *chhurí* or fly flap; and on the 9th of Bhádon the *Jogís* take it round the village to the sound of drums, and people salute it and offer *chúrmás*. He is not malevolent; and the loss of respect which his good nature causes him is epitomised in the saying—*Gugá betá ná degá tan kuchh na chhín lega* more:—"If *Gúgá* doesn't give me a son, at least he will take nothing away from me." He is associated by the people with the five *Pírs*, who occasionally have shrines in the villages.

The *Núrís* or fairies.

The *Núrís* are a somewhat vaguely defined class of malevolent spirits, who attack women only, especially on moon-light nights, giving them a choking sensation in the throat and knocking them down (? hysteria). Children, on the other hand, they protect. They seldom have shrines built to them; but a tree or a corner by a tank is generally sacred to them, and here mud is flung to them. They are Musalmán, and are apparently the same as the *Parind* or *Peri*, being also known as *Shahpurís*; but they resent being called so, and no women would mention the word. *Chúrmás* are offered to them on Thursday evening by women and children, and taken by Musalmán *faqírs*, or sometimes by *Jogís* or sweepers; and they are

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Minor saints.

worshipped at weddings. The middle of Chet, too, is a common time for offerings to them.

The local saints are innumerable, many villages having shrines to names never heard of elsewhere; often those of people killed in the village. A few of the most celebrated saints worshipped in the district are mentioned below:—

Mírán sáhib was a Saiyad of Baghdád, of whom many wonderful stories are told. He is often said to be the same as *Hazrat Pirán Pír* of the Panjáb; but this seems very doubtful. He once led a mighty army to battle, and had his head carried of by a cannon-ball during the fight. But he did not mind a bit and went on fighting. Then a woman in one of Rájá Thárwá's villages said "who is this fighting without his head?" Upon which the body said—"*Haqq, haqq*," and fell down dead, but as he was going to fall he said—"What! Aren't these villages upside down yet?" Upon which every village belonging to and called after Rájá Thárwá throughout the country was turned upside down, and all their inhabitants buried except the Bráhman's daughter. The walls are still standing upside down to convince you. Mírán Sáhib was buried in Hábrí, and is commonly invoked and worshipped by the Nardak people; as also his sister's son Saiyad Qabír. They have a joint shrine called *Mámú-bhánjá* (uncle and nephew) in Sunpat.

Lakhdátá or *Sakhí Sarwar* is a Panjáb saint chiefly worshipped by Gújars and Rájpúts. On *Salúno*, the last day of Sáwan, the women paint his picture on the wall, and the Bráhmans bind a sacred thread on the wrist. He is also called *Rohiánwálá*, or *Sakhí Sultán*, or *Sálanwálá*.

Báwá Faríd Shakarganj of Pák Patan in Montgomery, is also honoured by the people, and has a shrine at Ghogrípur, where crowds of people offer to him after the spring harvest.

Boali Qalandar, a contemporary of *Báwá Faríd*, is a very celebrated local saint. He used to ride about on a wall at Búrhá Kherá, but eventually settled at Pánípat. He prayed so constantly that it became laborious to get water to wash his hands with each time; so he stood in the Jamná, which then flowed under the town. After standing there seven years the fishes had gnawed his legs, and he was so stiff that he could hardly move. So he asked the Jamná to step back seven paces. She, in her hurry to oblige the saint, went back seven *kos*, and there she is now. He gave the Pánípat people a charm which dispelled all the flies from the city. But they grumbled and said that they rather liked flies; so he brought them back a thousand fold. The people have since repented. He died at Búrhá Kherá, and there was a good deal of trouble about burying him. He was buried first at Karnál; but the Pánípat people claimed his body and opened the grave, upon which he sat up and looked at them till they felt ashamed. They then took away some bricks from the grave for the foundation of a shrine; but when they got to Pánípat and opened the box, they found his body in it; so he now lies buried both at Pánípat and at Karnál. There is also a shrine to him at Búrhá Kherá built over the wall on which he used to ride. His history is given in the Aín Akbarí. He died in 724 Hijra.

Naugazahs, or graves of saints said to be 9 yards long, are not uncommon. They are certainly of great length.

Minor saints.

Kalù Saiyad, the family saint of the Kaliár Rájpúts at Pánípat, is a great worker of wonders; and if one sleeps near his shrine, he must lie on the ground and not on a bedstead, or a snake will surely bite him. If a snake should, under any other circumstances, bite a man in the Kaliár's ground, no harm will ensue to him.

Ghosts or *Bhúts*.

It has already been explained that the spirit after death undertakes a year's travels as a *paret*. But if, at the end of that time, he does not settle down and enter upon a respectable second life, he becomes a *bhùt*, or if a female, a *churel*; and as such is an object of terror to the whole country. His principal object then is to give as much trouble as may be to his old friends, possessing them, and producing fever and other malignant diseases. People who have died violent deaths (called *Ghazimard* or *apgat*) are especially likely to become *bhùts*; hence the precautions taken to appease the Saiyads and others in like case with them. In many villages there are shrines to people who have been killed there. Sweepers, if carelessly buried mouth upwards, are sure to become *bhùts*; so the villagers always insist upon their being buried face downwards (*mùndha*), and riots have occurred about the matter, and petitions have been presented to the Magistrate. The small whirlwinds that raise pillars of dust in the hot weather are supposed to be *bhùts* going to bathe in the Ganges. *Bhùts* are most to be feared by women and children, and especially immediately after eating sweets; so that if you treat a school to sweets, the sweet-seller will also bring salt, of which he will give a pinch to each boy to take the sweet taste out of his mouth. They also have a way of going down your throat when you yawn, so that you should always put your hand to your mouth, and had also better say Náráin afterwards.

Omens and charms.

The people are very observant of omens (*sagùns*). The following verse gives some of the principal ones:—

Kàga, mirga, dahine, bain bisyàr ho;
Gaiyi sampat baore jo garùr dahine ho.

"Let the crow and the black buck pass to the right; the snake to the left. If a mantis is to the right, you will recoup your losses."

A mantis is called the horse or cow of Rám; is always auspicious, especially on *dusahra*; and the villager will salute one when he sees it. Owls portend desolate homes. Black things in general are bad omens (*kusaun*); and if a man wishes to build a house and the first stroke of the spade turns up charcoal, he will change the site. On the other hand, iron is a sovereign safeguard against the evil eye. While a house is being built there is always an iron pot (or a *gharà* painted black is near enough to deceive the evil eye) kept on the works; and when it is finished the young daughter of the owner ties to the lintel of the door a *kangna*, consisting of an iron ring (*chhalla*) with other charms, and her father gives her Re. 1-4 for doing it. Till then the house is not inhabited. The same *kangna* is used at weddings and on other occasions. A *koil* is especially unlucky. Chief among good omens (*sàod sàon*) is the *dogar*, or two water pots, one on top of the other. It should always be left to the right.

Charms are in common use. The leaves of the *siras* are especially powerful; and after them, those of the mango. They are hung up

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in garlands with a mystic inscription on an earthen platter in the middle; and the whole is called a *totka*. The *jánd* is another very sacred tree. In illness it is a good thing to have an inscription made on an earthen vessel by a *faqir*, and to wash it off and drink the water. So in protracted labour the washings of a brick from the fort *Chákábú* of Amín near Pehoa are potent: or if any body knows how to draw a ground plan of the fort, the water into which the picture is washed off will be equally effective as a potion.

Superstitions.

Of course the superstitions of the people are innumerable. Odd numbers are lucky. *Numero Deus impari gaudet.* But three and thirteen are unlucky, because they are the bad days after death: so that *terátín* is equivalent to "all anyhow." And if a man, not content with two wives, wish to marry again, he will first marry a tree, so that the new wife may be the fourth, and not the third. So if you tread on a three-year old pat of cowdung you lose your way to a certainty. The preference for the number 5, and, less markedly for 7, will have been apparent throughout the foregoing pages. An offering to a Bráhman is always 1¼, 2½, 5, 7½, and so on, whether rupees or seers of grain. The dimensions of wells and parts of wells and their gear, on the other hand, are always fixed in so many and three quarter hands; not in round numbers. The tribal traditions of the people, and those concerned with numbers and areas, with chief's wives and sons, and with villages, swarm with the numbers 12, 24, 16½, 52, 84 and 360. Hindus count the south a quarter to be especially avoided, for the spirits of the dead live there. Therefore your cooking hearth must not face the south; nor must you sleep or lie with your feet towards the south except when you are about to die. To sneeze is auspicious, as you cannot die for some little time after; so when a man sneezes, his friends grow enthusiastic, and congratulate him saying *satan jiv*—"live a hundred years;" or *Chakpadi*, a name of Devi who was sneezed out by Brahmá in the form of a fly.

It is well not to have your name made too free use of, especially for children. They are often not named at all for some little time, and when named, are often addressed as *bájá* or *bájí*, according to sex. If a man is wealthy enough to have his son's horoscope drawn, the name then fixed will be carefully concealed till the boy is 8 or 10 years old, and past danger. And even then it will not be used commonly, the every-day name of a Hindu being quite distinct from his real name given in his *janampatrí* or horoscope. At his marriage, however, the real name must be used.

A Hindu will not eat, and often will not grow, onions or turnips; nor indigo, for simple blue is an abomination to him. Nor will a villager eat oil or the black sesame seed, if formally offered him by another; for if he do he will serve the other in the next life. Thus if one ask another to do something for him, the latter will reply:—"*kyá, máin ne tere kale til chábe hain.*" "What? Have I eaten your black sesame?" Sacred groves (*talák*) are not uncommon; and any one who cuts even a twig from them is sure to suffer for it. They exist in some of the villages where wood is most scarce, but are religiously respected by the people. The Baniás of the tract have a curious superstition which forbids the first transaction of the

day to be a purchase on credit. It must be paid for in cash, and is called *bohní*. The age of miracles is by no means past. In 1865 a miraculous bridge of sand was built over the Jamná in this district at the prayer of a *faqír*, of such rare virtue that lepers passing over it and bathing at both ends were cured. A good many lepers went from Karnál to be cured; but the people say that the bridge had "got lost" when they got there.

Fasts and festivals.

Of course the greater number of the village festivals and the observances appropriate to them are common to all Hindus. But some of them are peculiar to the villages, and a description of them will not be out of place here. The ordinary *Diwálí* is on the 14th of Kátik, and is called by the villagers the little *Diwálí*. On this day the *pitr* or ancestors visit the house. But the day after, they celebrate the great or *Gobardhan Diwálí*, in which Krishna is worshipped in his capacity of cowherd, and which all owners of cattle should observe. On the day of the little *Diwálí* the whole house is fresh plastered. At night lamps are burnt as usual, and the people sit up all night. Next morning the house-wife takes all the sweepings and old clothes in a dust pan, and turns them on to the dunghill, saying "*daladr dúr ho*," *daladr* meaning thriftless, lazy, and therefore poor. Meanwhile the women have made a *Gobardhan* of cowdung, which consists of Krishna lying on his back surrounded by little cottage loaves of dung to represent mountains, bristling with grass stems with tufts of cotton or rag on the top for trees; and little dung balls for cattle, watched by dung men dressed in bits of rag. Another opinion is that the cottage loaves are cattle, and the little balls calves. On this is put the churn-staff and five whole sugar-canes, and some parched rice and a lighted lamp in the middle. The cowherds are then called in, and they salute the whole and are fed with parched rice and sweets. The Bráhman then takes the sugar-cane and eats a bit; and till that time nobody must cut, or press, or eat cane. Parched rice is given to the Bráhman; and the bullocks have their horns dyed, and get extra well fed.

Four days before the *Diwálí*, or on the 11th of Kátik, is the *Devuthni Gyaras*, on which the gods wake up from their four month's sleep, beginning with the 11th of Sárh, and during which it is forbidden to marry, to cut sugar-cane, or to put new string on to bedsteads on pain of a snake biting the sleeper. On the night of this day the children run about the village with lighted sticks and torches. On the 15th and 11th of Phágan the villagers worship the *áonla* tree or phyllanthus emblica, mentioned by Huen Tsang as being so abundant beyond Dehli. This tree is the emblic myrobolus, a representation of the fruit of which is used for the finial of Buddhist temples. Its worship is now connected with that of Shiv; Bráhmans will not take the offerings. The people circumambulate the tree from left to right (*prikammá*), pour libations, eat the leaves, and make offerings, which are taken by the *Kanphate Jogís*. Fasts are not much observed by the ordinary villager, except the great annual Fasts; and not even those by the young man who works in the fields, and who cannot afford to fast. *Gúr*, flour made from *singhárá* or water calthrop, from the *sánwak* grain, wild swamp rice, the seeds of cockscomb (*chaulaí*) and milk, in fact almost anything that is not

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included under the term *náj* or grain, may be eaten on fasts; so that the abstinence is not very severe.

Karnal Mission.

The Karnál Mission is connected with the society for the propagation of the gospel in Foreign Parts and is a branch of the Dehli Mission. The mission work in Karnál was commenced in 1865, and branch missions established at Pánípat and Kaithal in 1882. The mission staff consists of 1 missionary, 3 catechists, and 3 readers. The number of the Native Christians in connection with the mission is men 9, women 7, children 20, total 36. All these, with the exception of one old man, are, however, agents employed by the missions. The operations of the mission include *zanánah* teaching, girls schools, and a dispensary under the charge of a female medical missionary, at which 1,941 women and children were treated in 1883. There is also a small schools for sons of *Chamárs*.

SECTION D.—TRIBES AND CASTES.

Statistics and local distribution of tribes and castes.

Table No. IX gives the figures for the principal castes and tribes of the district, with details of sex and religion, while Table No. IXA shows the number of the less important castes. It would be out of place to attempt a description of each. Many of them are found all over the Panjáb, and most of them in many other districts, and their representatives in Karnál are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are important as landowners or by position and influence, are briefly noticed in the following sections; and each caste will be found described in Chapter VI of the Census Report for 1881. The Census statistics of caste were not compiled for *tahsíls*, at least in their final form. It was found that an enormous number of mere clans or sub-divisions had been returned as castes in the schedules, and the classification of these figures under the main heads shown in the caste tables was made for districts only. Thus no statistics showing the local distribution of the tribes and castes are available.

Former inhabitants.

The Tagás are probably the oldest of the existing inhabitants of the tract; they originally held a great part of the Khádar, and now hold most of *parganah* Gauaur; and as, wherever the river has not passed over the land within recent times, Tagás are still in possession, it is not improbable that they were driven from much of their old territory by changes in the Jamná. The Rájpút bards and the traditions of the people tell us that in old days Chandel Rájpúts held Kaithal and Samáná, and had local head-quarters at Kohand, whence they ruled the neighbouring portion of the tract. The Bráh Rájpúts held the country round Asandh, Safídon, and Sálwan; while the Pandírs held Thánesar and the Nardak, with capitals at Púndri near Fattehpur, Ramba, Hábri and Pundrak close to Karnál. The Mandhár Rájpúts came from Ajudhia, and, settling in Jínd, expelled the Chandel and Bráh Rájpúts and took possession of their country, the former going towards the Siwálks, and the latter beyond the Ghaggar. The Mandhárs fixed their capital at Kaláyat in Patiálá, whence they settled the local centres of Asandh, Safídon and Gharaunda.

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Former inhabitants.

The Mandhárs were unable to make any impression upon the Pandírs, who were presently expelled by the Chauhán Rájpúts from Sambhal in Morádábád under the leadership of Ráná Har Rái, and fled beyond the Jamná. The Chauháns made Júndlá their head-quarters, and held a great part of the Nardak, and also large possessions in the Doáb. The Túnwar Rájpúts originally held Pánípat and the country round, but would seem to have been dispossessed by Afgháns in the early days of the Muhammadan conquest. They now hold the country beyond Thánesar, and still own a section of the city of Pánípat. The old boundary of the Túnwars, Chauháns and Mandhárs in Kaithal used to meet in Pai (now a wealthy village). Pai belonged to the Mandhárs. Hábri to the east was and is a Chauhán village, and Mundri, which is now a Ror village, was Túnwar. The Tunwars, also held Khurana, Phural, and Rasúlpur, in which last they had a large fort. Pharal is the only village they now hold. Probably they once held the whole Naili tract and were turned out by Mandhárs. The Chauháns either alone or in conjunction with their former dependents hold six or seven villages round about Hábri.

The Rájpút chiefs (Ránás and Ráis) would seem, subject to the payment of tribute to Dehli, to have enjoyed almost independent authority up to the time of the consolidation of the Mughal Empire under Akbar, or even later; and squeezing the Ránás was a favourite occupation of the old Afghán Emperors. Their degradation to the position of mere village chiefs is attributed to Aurangzeb, who forcibly converted many of them to the Muhammadan faith.

In the Aín Akbari the principal castes of *parganah* Karnál are stated to be Ránghars and Chauháns; the word *Ránghar*, now used for any Musalmán Rájpút, being probably applied to the Mandhárs, who had adopted Islám. Those of *parganah* Pánípat are given as Afgháns, Gújars and Ránghars. The surrounding castes were Tagás in Ganaur; Afgháns and Játs in Sunpat; Játs in Gohána; Rájpúts, Ránghars and Játs, in Safídon; Ránghars, in Púndri; Ránghars and Játs in Hábri; and Ránghars and Tagás in Indrí. The Pandírs held Bhatindá, and the Bráhs the country about Samáná. Mr. Ibbetson writes in his Settlement Report on *tahsíl* Pánípat and *parganah* Karnál:—

"Local tradition has enabled me to make a rough approximation to the tribal distribution at the time of the Aín Akbari (1590 A. D.), and I give it in Map No. V. I think some reliance may be placed upon the *general* features of the map. In some cases the descendants of the former inhabitants still periodically visit the shrines existing on the old ancestral site; and in particular, tombs in the unmistakeable architecture of the Afgháns tell every here and there of people who have now disappeared. It will be observed that Afgháns then held a large part of the lower Khádar. They had also formerly held a good deal of the Bángar, which was occupied at the time we speak of by Gújars. At present there is only one Afghán village, besides part of the city of Pánípat, in the whole tract; and I think the total disappearance of this caste must be accounted for by changes in the river. It is to be noticed that they have been replaced very largely by Gújars; and I do not think Gújars were ever in a position, as Játs most undoubtedly were, to acquire territory by conquest in this part of the country, especially from Afgháns. I cannot help thinking it probable that the Afgháns left their Bángar villages for the more

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Former inhabitanst.

productive Khádar soil as it was left available by changes in the river ; and that they were again, after the time of Akbar, driven out by the branch of the Jamná already mentioned as sweeping over the parts held by them. The parts near Rákasahrá and Baréna have, as I have already pointed out, escaped river action altogether in recent times, and are still largely occupied by the original Tagá inhabitants. But in the intermediate parts of the Khádar the people have only been settled for some eight generations, which, at the usual Indian estimate of 25 years for a generation, would bring their first arrival well this side of the date of the Aín Akbari."

The Gújars were, as usual, intimately connected with the Rájpúts, and were for the most part settled by them in portions of their territory. The Gújars who originally held the country about Naráina were Chokar Gújars; those about Sutána and Náin were Chamains; while those of Kohand and Bápauli were Rawáls. The two first clans have been largely replaced by Játs and Rors; while the last has spread over the parts of the Khádar formerly occupied by Afgháns.

Local organization of tribes.

The primary sub-division of the tribes is into *thapás* or *thambás*. A tribal community having obtained possession of a tract, in course of time it would be inconvenient for them all to live together, and a part of the community would found a new village, always on the edge of a drainage line from which their tanks would be filled. This process would be repeated, till the tract became dotted over with villages all springing originally from one parent village. The people describe the facts by saying that, of several brothers, one settled in one village and one in another; but this no doubt means that the parts of the community that migrated consisted of integral families or groups of families descended in one common branch from the ancestor. In this way were divided the many villages known by the same name, with the addition of the words *kalán* and *khurd*, big and little. This by no means implies that *kalán* is *larger* than *khurd*, but only that the elder branch settled in *kalán*. The group of villages so bound together by common descent form a *thapá*, and are connected by sub-feudal ties which are still recognized, the village occupied by the descendants of the common ancestor in the eldest line being, however small or reduced in circumstances, still acknowledged as the head. To this day, when a headman dies the other villages of the *thapá* assemble to instal his heirs, and the turban of the parent village is first tied on his head. When Bráhmans and the brotherhood are fed on the occasion of deaths, &c., (*meljor*), it is from the *thapá* villages that they are collected; and the Bráhmans of the head village are fed first, and receive double fees. So among the menial castes, who still retain an internal organization of far greater vitality than the higher castes now possess, the representative of the head village is always the foreman of the caste jury which is assembled from the *thapá* villages to hear and decide disputes. In old days the subordinate villages used to pay some small *chaudráyat* to the head village on the day of the great *Diwáli*. The head village is still called "great village," the "turban village," "the village of origin," or "the *thíká* village," *thìká* being the sign of authority formally impressed in old days on the forehead of the heir of a deceased leader in the presence of the assembled *thapá*. Mr. Ibbetson says :—"In one case a village told me that it had changed its

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Tribes and Castes.

Local organization, of tribes.

Admission of strangers into the tribal organization.

"*thapá*, because there were so many Bráhmans in its original *thapá* "that it found it expensive to feed them. I spoke to the original "*thíká* village about it, and they said that no village *could* change its "*thapá*. '*Pút kupút hosakta; magr má kumá nahín hosakti.*' 'A son "may forget his sonship; but not a mother her motherhood.' "

But the *thapá* is not wholly confined to the original tribe which founded it. A man without sons will often settle his son-in-law in the village as his heir; and as the clans are exogamous, the son-in-law must necessarily be of a different family. So, too, a man will settle a friend by giving him a share of his land. The strangers so admitted have in many cases separated their land off into separate villages; but just as often they still live in the old village, and in some cases have just overshadowed the original family. It is curious to note how the fiction of common descent is, even in these cases, preserved, as has been so well insisted upon by Maine. The man who thus takes a share of another's land is called *bhúnbháí*, or "earth-brother;" and if a landowner of a clan other than that of the original owners is asked how he acquired property in the village, his invariable answer is "*bháí karke basáyá*," "they settled me as a "brother."

But it is not only by fictitious relationship that strangers have obtained admission into *thapás*. In some cases the pressure of the troublous times which were so frequent in former days has induced two weak groups of adjoining villages to unite for common defence. And still more frequently, people settled originally as cultivators have, by the lapse of time or by the dying out of the original owners, acquired proprietary rights. Village boundaries were before our times by no means so well defined as they are now, as is shown by the boundaries often zig-zagging in and out of adjoining fields held by different villages, and by contiguous villages sometimes having their lands intermixed. Boundaries, where they lay in uncultivated land held by villages of the same tribe, were probably almost unknown; for even now the cattle graze in such cases almost independent of them.

It was, and is still, a common custom to settle cultivators in a small outlying hamlet (*garhí* or *májrá* or *kherí*) in the village area to cultivate the surrounding land; and the old maps and papers show that it was very much a matter of chance whether, when we made a survey and record of rights in land these were marked off as separate villages or not. It will be shown in the succeeding section of this chapter that we confused cultivating possession and consequent liability for revenue with proprietary right; and when these small hamlets were held by cultivators of a different caste from those of the parent village, they were generally marked off and declared to be their property. This is particularly the case with Rors, many small villages of which caste are dotted about among the Rájpúts of the Nardak. These were originally small communities settled by the Rájpúts as cultivators in their land to assist them to bear the burden of the Government demand; and even in Pánipat where the Rors are far stronger than in Karnál, they have, almost in every instance, been similarly settled by former Gújar inhabitants, of whom a few families still remain in many villages as the sole representatives of the old

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owners. Bráhmans too have acquired land in many villages by gifts made in the name of religion.

Imperial *thapás.*

The *thapás* above described are those based upon tribal organization, and are still recognized fully by the Rájpúts, especially in Kaithal, and more or less by the people generally. But the Imperial revenue system, in adopting the tribal *thapá* as one of its units, somewhat modified its constitution. The revenue was primarily assessed and collected by the local *ámil*, an Imperial authority. But he worked principally through the *chaudhrís* or local heads of the people, who represented large sub-divisions of the country, based, as far possible, upon tribal distribution. Thus *chaudhrís* existed in old days at Júndla, Pánípat, Balá and other places, and received an allowance called *nánkár* in consideration of the duties they performed. They again worked almost entirely by *thapás* the assessment being fixed for a whole *thapá*, and being distributed over the constituent villages by the headmen of the villages, presided over by those of the *thíká* or chief village. These revenue *thapás* coincided generally with the tribal *thapás*; but they occasionally varied from them from considerations of convenience. Old *parganah* Pánípat contained 16½ *thapás*, half Jaurási having been separated by Farrúkhsír, as stated in Chapter III.

Division of tribes into clans: exogamy and endogamy.

The above remarks apply to the territorial organization of the tribes. But the internal organization of the tribe is still more important as bearing upon its social relations. The tribe as a whole is strictly endogamous; that is to say, no Játcan, in the first instance, marry a Gújar or Ror, or any one but a Ját and so on. But every tribe is divided into clans or *gots*; and these clans are strictly exogamous. The clan is supposed to include all descendants of some common ancestor, wherever they live. Mr. Ibbetson writes:—" I have had some doubts " whether many of the clans do not take their present names from the " places from which they have spread. But I think the reasons against " this theory are, on the whole, conclusive; and that the similarity of " name, which not very unfrequently occurs, is owing to the village " being called after the clan, and not the clan after the village. Of " course local nick-names (*dl*, *beong*) are often given, and these may in " some cases have eventually obscured the original clan name." Traces of phratries, as Mr. Morgan calls them, are not uncommon. Thus the Mandhár, Kandhár, Bargújar, Sankarwál and Panihár clans of Rájpúts sprang originally from a common ancestor Láo and cannot intermarry. So the Deswál, Mán, Dalál and Siwál clans of Játs, and again the Muál, Suál and Rekwál clans of Rájpúts, are of common descent, and cannot intermarry.

The fact that many of the clans bear the same name in different tribes is explained by the people on the ground that a Bachhás Rájpút, for instance, married a Gújar woman, and her offspring were called Gújars, but their descendants formed the Bachhás clan of Gújars. A Rájpút marrying out of his tribe becomes a *ghulám*. This sort of tradition is found over and over again all over the country; and in view of the almost conclusive proof we possess that descent through females was once the rule in India as it has been probably all over the world it seems rash to attribute all such traditions merely to a desire to claim

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Division of tribes into clans: exogamy and endogamy.

descent from a Rájpút ancestor. It would appear that there are actually Rájpút clans existing, sprung from Bhát, Bráhman and Carpenter fathers and Rájpút women. At present the offspring of a mixed connection (marriage proper is impossible) take the caste of the father; but those of the pure blood will not intermarry or associate with them. Some traces of totemism are still to be found; and as gentile organizations have almost always been closely connected with totems, it is probable that further inquiry, and especially an etymological examination of the names of the clans, would greatly extend their numbers. This also would account in many instances for clans in different tribes bearing the same name. Thus, the Jáglán Játs worship their ancestor at a shrine called *Deh*, which is always surrounded by *kaim* trees; and if a woman married in a Jáglán family passes a *kaim* tree, she will cover her face before it as before an elder relation of her husband. Again, the Mor Játs will not burn the wood of the cotton plant.

Exogamy among the clans.

Every clan is exogamous; that is, that while every man *must* marry into his own tribe, no man *can* marry into his own clan. But this is by no means the only limitation imposed upon inter-marriage. In the first place, no man usually marries into a family, of *whatever* clan it may be, that is settled in his own village or in any village immediately adjoining his own. The prohibition is based upon "*símjor ki birádari*," or the relationship founded upon a common boundary; and is clearly a survival from marriage by capture. The old rule is becoming less rigid, especially amongst Musalmáns, but two social reasons combine to strengthen its vitality. (1) There is the importance of marrying your daughter where you can get grazing for your cattle in seasons of dearth. For instance Játs of Kaithal Bángar and Játs of Pehowa Naili intermarry with advantage to both sides. (2) There is the important object of getting rid of your father-in-law. If you live near him your wife always wants to visit her parents, and her filial promptings lead to expense and inconvenience. This limitation on inter-marriage with neighbours is further extended by the Rájpúts, so that no man of them can marry into any family living in the *thapá*, into any family of which his father, grandfather, or great-grandfather married. Thus, if a Mandhár Rájpút married a Chauhán Rájpút of *thapá* Júndla, his son, grandson, and great-grandson would not be able to marry any Chauhán of any village in the Júndla *thapá*. But beyond this, and the prohibition against marrying within the clan, the Rájpúts have no further limitations on inter-marriage. Among the other castes the *thapá* is not excluded; but no man can marry into any family of the clan to which his mother or his father's mother belongs, wherever these clans may be found. The Gújars, however, who are generally lax in their rules, often only exclude such persons of these clans as live in the individual village from which the relation in question came. In some parts of Ambála the people are beginning to add the mother's mother's clan, or even to *substitute* it for the father's mother's clan; and this may perhaps be a last stage of the change from relationship through women to relationship through men.

Social intercourse among tribes.

Broadly speaking no superior tribe will eat or drink from the hands or vessels of an inferior one, or smoke its pipes. But the reputed

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Social intercourse among tribes.

purifying influences of fire, especially as exercised upon *ghí* and sugar, and the superior cleanliness of metal over earthen vessels, are the foundation of a broad distinction. All food is divided into *pakkí rotí*, or fried dry with *ghì*, and *kachchí rotí* or not so treated. Thus, among the Hindus a Gújráti Bráhman will eat *pakkí* but not *kachchì rotí* from a Gaur, or Gaur from a Tagá, any Bráhman or Tagá from a Rájpút, any Bràhman, Tagá or Rájpút from a Ját, Gújar or Ror. Excepting Bráhmans and Tagás each caste will drink water from a metal vessel, if previously scoured with earth (*mànjna*), and will smoke from a pipe with a brass bowl, taking out the stem and using the hand with the fingers closed instead, from the same people with whom they will eat *pakkí* bread ; but they will not drink or smoke from earthen vessels, or use the same pipe-stem, except with those whose *kachchí* bread they can eat. Játs, Gújars, Rors, Rahbárís (a camel grazing caste) and Ahírs (a shepherd caste) eat and drink in common without any scruples. These, again, will eat a goldsmith's *pakkí* bread, but not in his house; and they used to smoke with carpenters, but are ceasing to do so. Musalmáns have lately become much less strict about these rules as governing their intercourse among themselves, and many of them now eat from any respectable Musalmán's hand, especially in the cities. And, subject strictly to the above rules, any Musalmán will eat and drink without scruple from a Hindu; but *no* Hindu will touch either *pakkí* or *kachchí rotí* from *any* Musalmán, and will often throw it away if only a Musalmáns shadow falls upon it, partly perhaps because Musalmáns eat from earthen vessels, which no Hindu can do unless the vessel has never been used before. This affords an easy mode of telling whether a deserted site has been held by Musalmáns or Hindus. If the latter, there will be numbers of little earthen saucers (*rikábis*) found on the spot. Bráhmans and Rájpúts will not eat from any one below a Ját, Gújar, or Ror; while these three tribes themselves do not, as a rule, eat or drink with any of the menial castes; and the following castes are absolutely impure owing to their occupation and habits, and their mere touch defiles food :—Leather-maker, washerman, barber, blacksmith, dyer (*chhímpí*), sweeper, *dúm*, and *dhának*. The potter is also looked upon as of doubtful purity. The pipes of a village, being often left about in the common rooms and fields, are generally distinguished by a piece of something tied round the stem—blue rag for a Musalmán, red for a Hindu, leather for a *chamár*, string for a Sweeper, and so on so that a friend wishing for a smoke may not defile himself by mistake. Gúr and most sweetmeats can be eaten from almost any body's hand even from that of a leather-worker or sweeper, but in this case they must be whole, not broken.

The Dehia and Haulánia factions.

There is a very extraordinary division of almost the whole countryside south of the Rájpút territory into the two factions (*kháp*) of Dehia and Haulánia, respecting the origin of which no very satisfactory information is forthcoming. The Dehias are called after a Ját clan of that name, with its head-quarters about Bhatgánw in Sunpat, having originally come from Bawáná near Dehli. The Haulánia faction is headed by the Ghatwál or Malak Játs whose head-quarters are Dher ká Ahulána in Gohána, and who were, owing to their successful opposition to the Rájpúts, the accepted heads of the Játs in these parts (see page 107 *infra*). Some one of the Emperors called them in

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to assist him in coercing the Mandhár Rájpúts, and thus the old enmity was strengthened. The Dehia Játs, growing powerful, became jealous of the supremacy of the Ghatwáls, and joined the Mandhárs against them. Thus the countryside was divided into two factions; the Gújars and Tagás of south Karnàl, the Jágláu Játs of *thapa* Naulthá, and the Látmár Játs of Rohtak joining the Dehias;* the Húda Játs of Rohtak, and most of the Játs of the southern half of the district except the Jágláns, joining the Haulánias. In the mutiny disturbances took place in the Rohtak district between these two factions, and the Mandhárs of the Nardak ravaged the Haulánias in the south of the tract. And in framing his *zails* the Settlement Officer had to alter his proposed division so as to separate a Dehia village which he had included with Haulánias, and which objected in consequence. The Dehia is also called the Ját, and occasionally the Mandhár faction. The Játs and Rájpúts seem, independently of these divisions, to consider each other, tribally speaking, as natural enemies; and one is often assured by Jàts that they would not dare to go into a Rájpút village at night.

The Dehia and Haulánia factions.

The Rájpùts.

In briefly describing the principal tribes of the district, we will begin, as in duty bound, with the Rájpúts. It is hardly necessary to say much about their well known tribal characteristics. They are fine, brave men, and retain the feudal instinct more strongly developed than any other non-menial caste, the heads of the people wielding extraordinary authority. They are very tenacious of the integrity of their communal property in the village land, and seldom admit strangers to share in it. The Nardak contributes many soldiers to our army. They are lazy and proud, and look upon manual labour as derogatory, much preferring the care of cattle, whether their own or other people's. In the canal and Khàdar parts they have abandoned pastoral for agricultural pursuits; but even here they will seldom, if ever, do the actual work of ploughing with their own hands; while the fact that their women are kept strictly secluded deprives them of an invaluable aid to agriculture. In the Nardak a great part of the actual work of cultivation is done by other castes. They are, of course, cattle-stealers by ancestral profession; but they exercise their calling in a gentlemanly way, and there is certainly honour among Rájpút thieves. Musalmán Rájpúts are called *Ránghars* by other castes and *Chotíkats* by their Hindu brethren, from *chotí*, the Hindu scalp-lock, which the Musalmán does not preserve. But both terms are considered abusive, especially the latter. The principal clans are the Chauháns and the Mandhárs.

The Mandhárs were settled in very early days in the country about Samána; for Fíroz Sháh chastised them, carried off their Ránás to Dehli, and made many of them Musalmáns. The Safídon branch obtained the villages now held by them in the Nardak in comparatively late times by inter-marriage with the Chauháns. And though they expelled the Chandel Rájpúts from Kohand and Gharaunda when they first came into these parts, yet the Chandels re-conquered them; and the final occupation by Mandhárs coming direct from Kaláyat in Patiálá is probably of comparatively recent date. They, with the other four clans already mentioned as connected with them by blood, are descended from Lâo, a son of Rámchandar and grandson of Rájá Dasarat, and said to be

* It is said that the Baĥan and Sakilan Jats of the Doáb joined the Dehias; and that the Tagas of the Doáb joined the Haulanias.

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the founder of Lahore. Their phratry is called Lachman, after a childless son of Rájá Dasarat; Rámchandar having another son Kuskumar who ruled in Kashmírand founded the Kachwáhá and Narbán gentes. They are of the Súraj Bansi clan. Their place of origin is Ajodhia; and Kaláyát in Patiálá, their head-quarters in these parts.

The Chauháns are all sprung from the original people who settled at Júndla. They all claim descent from Rána Har Rái; but as it is improbable that he conquered the country single-handed, and as his followers probably included Rájpúts whose descendants are still in possession, this cannot be true. At the same time it is probable that the eldest line, in which authority descended from Rána Har Rái, has been preserved in its integrity. According to this, 19 generations, equivalent to 475 years, have intervened since the Chauhán conquest, which would fix it at about the time of Bahlol Lodi, when the Chauháns of Morádábád took a new departure. They are of the Agnikula clan. Their origin is from Sámbhar in Ajmír; but Rána Har Rái came from Sambhal in Morádábád, where the family bards still live. Many of them are now Musalmáns, and the change of religion dates from some generations back. They are the highest of the Rájpút clans about here, and some of the Muhammadan members will even marry with their own clans in the neighbourhood. The *Khuhi* Chauháns on the Ganges will do this even when Hindus; but they practise second marriage and other abominations. They intermarry freely, however, with all the Rájpúts in these parts, subject to the limitations already stated.

The Túnwars have almost wholly disappeared from the district, being now chiefly represented by the Rájpúts of the town of Pánipat. They are of the Lunar race. Pharal in Kaithal is a large Túnwar village, and the neighbourhood is called Túnwaron. If a man is asked whether Pharal is in the Nardak or Bángar, he says it is in neither but *Túnwaron men*. The Nardak in Kaithal is to a considerable extent used to designate the country occupied by Mandhárs and Chauháns; that is, the tribal limit to a certain extent fixes the limit of territory known as Nardak.

The Játs.

The Játs are pre-eminently the agricultural caste of the tract, and, with the exception of the Rors, and of the Rains, Málís, and Kambohs, who are practically market gardeners, are the best cultivators we have. A Ját, when asked his caste, will as often answer "*zamíndár*" as "Ját." They are a fine stalwart race. Mr. Ibbetson measured one at Didwári 6 feet 7 inches high and 42½ inches round the chest. He complained that a pair of shoes cost him Re. 1-8. They are notorious for their independence, acknowledging to a less degree than any other caste the authority of their headmen. They hold several tribal groups of villages; but they also own parts of villages almost all over the tract save in the Gújar and Rájpút portions. They seem to have held parts of the country about Samána in very early days, and, as already noted, that part certainly formed a part of an early Indo-Scythian kingdom. The Játs of the district seem to have come partly from the Bágar, where they were in force 700 years ago. In no case have Játs settled from across the Jamná. The Jats are not mentioned as a prominent caste of the tract in Akbar's time, and probably gained a footing during the breaking up of the Mughal dynasty, when they

became an important element in the politics of the time. Elliott and Cunningham divide the Dehli Játs into Dese and Pacháde; but no trace of this division at present exists save that there is a powerful clan called Deswál in Rohtak, and that the Játs hold a *des* of 84 villages in the Doáb. The Játs of the tract are almost without exception Hindus. Those who have become Musalmáns are called *Mûle Jàts*, and are only found in two or three villages; and there even are only individual families, generally said to be descended from hostages taken in infancy by the Musalmán rulers and circumcised by them. The principal clans are as follows:—

Jágláu, sprung from Jagla, a Ját of Jaipur, to whom there is a shrine in Isrána at which the whole *thapà* worships. They hold the 12 villages (*bàrah*) of *thapá* Naultha, and come from Ludas, in Sirsa or Hissár.

Ghanghas, sprung from an ancestor called Badkál, whom they still worship, and who has a shrine in Púthar. They hold the *thapá* of Mándi, and come from Dhanána near Bhiwáni, in the Bágar.

Ghatwàl or *Malak*, dating their origin from Garh Ghazni, and holding Bawána, whither they came from Ahuláná in Gohána. They hold Ugra Kheri and the villages settled from it, and are scantily represented in this district. In the old days of Rájpút ascendancy the Rájpúts would not allow Játs to cover their heads with a turban, nor to wear any red clothes, nor to put a crown (*mor*) on the heads of their bride-grooms, or a jewel (*nàth*) in their women's noses. They also used to levy seignorial rights from virgin brides. Even to this day Rájpúts will not allow inferior castes to wear red clothes or ample loin clothes in their villages. The Ghatwáls obtained some successes over the Rájpúts, especially over the Mandhárs of the Doáb, near Deoban and Manglaur, and over those of the Bágar near Kalánaur and Dádri, and removed the obnoxious prohibitions. They then acquired the title of *malak* (master) and a red turban as their distinguishing mark; and to this day a Ját with a red *pagri* is most probably a Ghatwál.

Deswàl, who hold Korár, Madlaudá, Atáolá, Maháoti, and other villages, and came from Rohtak, where they have their head-quarters in the village of Mandauthi.

Katkhur or *Gahlaur*, perhaps the most powerful Ját clans in the tract, holding the 12 villages (*bára*) of Jaurási. They came from Mot Páli in Hissár.

Sandhu worship Kála Mehar or Kála Pír their ancestor, whose chief shrine is at Thána Satra in Siálkot, the head-quarters of the Sandhus. They hold Gagsína, Khotpurá, and other villages; and have come here *viâ* Phúl Maháráj in Patiálá.

Halâwat, who hold Bábail and other villages, and came from Dighal in Rohtak. They worship a common ancestor call Sadu Deb.

The chief remaining clans are shown below:—

No.	Clan.	Head-quarters.	Place of origin.
1	Ján ...	Kurlán and Dimána ..	Dehli
2	Ráthi ...	Manána and Bál Játán .	Bahádurgarh in Rohtak
3	Sahráwat ...	Karhas, Palri ...	Dehli or its neighbourhood, viâ Rohtak

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No.	Clan.	Head-quarters.	Place of origin.
4	Kharab .	Nára ...	Dehli, *viâ* Kháni Kheri in Hánsi.
5	Narwál ...	Waisarand Kheri Naru..	Kathura in Rohtak.
6	Nándal ...	Dáhar, &c. ..	Bohar in Rohtak.
7	Dehia ...	Idiána ...	Rohna in Rohtak.
8	Kurdu .	Shahpur Káyath (Rohtak),	Tátauli in Rohtak.
9	Káli Rámni ...	Pádla, Bázida and Balána,	Garh Ghazni, *viâ* Sirsa: Patan (Pák Pátan?); Garhwál; Rawar, in Rohtak; and Kont, near Bhiwáni.
10	Phor or Dhálíwál,	Dhansauli ...	Garh Ghazni, *viâ* Dhola *thapà* near Lahore.
11	Mán ...	Bala and Ghogrípur ...	Batinda in Málwa, *viâ* Ganúrkhera beyond Hissár.
12	Bainíwál ..	Qavi, Bhábpura ...	Bhadra Churi, near Bikánír, *viâ* Rattak in Kaithal.
13	Ruhál ...	Beholi, &c. ...	Bhiwáni.
14	Naiu .	Bhálsi, Bál Játán ...	Bíghar in Bikánír. Marry in Kasendhu (Rohtak) and Jínd.
15	Láther ...	Phúsgarh ...	Kapsaula in Jínd.
16	Kádián ...	Siwa ...	Chímní, near Beri in Rohtak, *viâ* Bajána in Sunpat.
17	Dahan ...	Shahrmálpur ...	Sálwan in Kaithal.
18	Dhaunchak ..	Binjhaul ...	Belon ká Bihána in Kaithal. Marry in Lát in Chaugánw of Rohtak.

Less locally important, but still holding considerable areas are the Húda, Mityán, Mandhár, and Gotia clans from Rohtak; the Goit, Nohra, Káhral, Sumra (or Gurelia), and Dhándu clans from Jínd; the Pánu, Kájal, Bhákar, Gauria, Matián, Cháhil, Kohar, Lochab, and Púnia clans from the Bágar of Hissár and Bikánír; the Phandán and Bángar clans from Kaithal; the Laur from Sirsa; the Kor from Dehli; the Dhul from Ludás in Bikánír *viâ* Bopla in Rohtak; and the Náru and Bhája from Bhera in district Sháhpur.

The Gújars.

The Gújars are a notorious thieving tribe; and, as a rule, their cultivation is of the most slovenly description, though in many of the Khádar and canal villages they have really applied themselves in earnest to agriculture. They have a habit of breaking up far more land than their numbers and appliances can properly cultivate; and though their women will go to the well, bring food to the workers in the field, pick cotton, and do other light work, yet they will not weed or do any really hard labour in the fields like the Játs women. The difference between a Gújar and a Rájpút thief was well put by a villager as follows:—"A Rájpút will steal your buffalo; but he wont "send his father to say he knows where it is and will get it back for "Rs. 20, and then keep both the Rs. 20, and the buffalo. The Gújar "will." The local opinion of the Gújar is embodied in the proverb—

Kuttá, billí do, | *Yih chár na ho,*
Ránghar, Gùjar do; | *To khule kiwáre so.*

"The dog and the cat, two; the Ránghar and Gújar, two. If it were not for these four you might sleep with your door open." Again, "*Jitte dekhen Gújar, itte deyíe már*;" or "wherever you see a Gújar, hit him." This character has been enjoyed by them from of old. The Gújars are, like the Rájpúts, singularly unwilling to

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The Gújars.

admit strangers to property in their villages. They are closely allied with the Rájpúts; and their possession of parts of the Bángar was probably contemporaneous with that of the Mandhárs, parts of whose conquests, such as Kohand, were given them. But in the Khádar they have succeeded Afgháns in comparatively recent times, save in a very few old villages. The principal clans are—

Rawàl.—This clan claims descent from a Rájpút called Dhúndpál from beyond Lahore, who married a daughter of a Gújar called Ghokar. It is part of the Ghokarbansi clan, and takes its specific name from Rúa Sársa near Lahore. In one village they say that the ancestor was a Khokhar Rájpút, and this is probably the better form of the tradition. They settled in Ráná Kherá, (now Rájápur), but moved thence to Kábrí and Kohand, where they held a *bára* of 12 villages; and they also held Bápaulí, whence they eventually settled the 27 villages (*satáisi*) of the Khojgipur *thapá* in the Khádar. They still hold the Khádar villages; but have lost most of those near Kohand.

Chokar.—This clan comes from Jewar *thapá*, beyond Mathra, *viâ* Báli Qutbpur, in Sunpat. They used to hold a *chaubisi* (24 villages) with Námaunda their head-quarters, and are probably very old inhabitants. They have been to a great degree displaced by Játs.

Chamain.—This clan claims descent from a Túnwar Rájpút by a Gújar mother; and the real gentile name is said to be Túnwar, Chamain being only a local appellation. They came from Dehli and settled in Náin and Sutána and the neighbouring villages; and are certainly very old inhabitants, very possibly having emigrated when expelled from neighbourhood of Dehli by Sher Sháh a few years after the Chauhán settlement. They have been largely dispossessed by Rors.

Kalsàn.—This clan claims descent from Ráná Har Rái, the Chauhán of Júndla by a Gújar wife. They had given them a part of his conquests in the Doáb, where they are still in great force, and they hold a little land in the Chauhán Nardak.

Other clans are Cheharwál or Daharwál, and Púswál from the neighbourhood of Dehli; Bhodwál from Meerut; Karháwat from Jhajjar; Báng and Katáne from Kaithal; Bhonkál from Bágpat; Khári from Sirsa Patan, *viâ* Dehli; Chauri from Chitrán in Hánsi, and Gorsi from Pehoa. They are none of them of any local importance.

The Rors.

No satisfactory information whatever is forthcoming as to the origin of the Rors. Most of them date their origin from the neighbourhood of Bádli, near Jhajjar in Rohtak; and there are traditions of a Túnwar Rájpút as ancestor. They hold a *chaurùsi* of 84 villages about Pehoa, and a *bàra* of 12 villages beyond the Ganges. They occupy many villages in the Mori Nardak, some in the east of *parganah* Kaithal, and a few in the south of Kaithal *tahsíl* near the Jínd border; but they have obtained their property in the district almost exclusively by being settled as cultivators by the original owners, generally Rájpúts and Gújars, who have since abandoned their villages, or died out wholly or in part. The Rájpúts say that the Rors were originally Ods who used to dig the tanks at Thánesar. They themselves claim Rájpút origin, and Rájpúts have been heard to admit the origin of the Dopla *Got* of Rors in Amín &c., from Ráná Har Rái by a Rorni wife. Socially

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The Rors.

they rank below Játs. The Rors, while almost as good cultivators as the Játs, and assisted by their women in the same way, are much more peaceful and less grasping in their habits; and are consequently readily admitted as cultivators where the Játs would be kept at arm's length. They are fine stalwart men, of much the same stamp as the Játs. The number of clans represented in the district is very great, almost every Ror village including several; and there are no large groups of villages held by a predominant clan, as is the case with the tribes already described. They are strongest in Indrí Nardak and along the Rohtak canal, where they hold many villages originally possessed by Gújars. The principal clans are—

Jográn, descended from a Chauhán Rájpút called Joga by a Ror woman. They hold the large village of Korána, and came from Kaláyat in Patiálá, *viâ* Púndri in Kaithal.

Ghanter, from Guráwar in Rohtak, and *Kandol* from Anwali in Rohtak. These two clans hold Alúpur and neighbouring villages.

Khechi came from Narar Jájru, in Jaipur, where they are still numerous. They hold Ahar, &c.

Besides these there are the Kulánía, Gurák, Maipla, Dumián, Rojra and Kainwál from Dehli; the Kharangar, Lathar, Jarautia, Dhankar, Khaskar and Chopre, from Rohtak; the Tharrak, Kokra, Tálse Dodán, Túrán and Lámra, from Kaithal and Jínd; the Kultagria from Thánesar; and the Muál from Bikánír; all of which hold considerable areas in the district.

The Tagás.

The Tagás, who must be carefully distinguished from the criminal Tágás of these parts, also of Bráhminical origin, are a Bráhman caste which has abandoned (*tagan karna*) the priestly profession and adopted agriculture. They have Bráhmans as their family priests. They are all Gaurs; and according to tradition their origin dates from the celebrated sacrifice of snakes by Janamejáya (vulg. Jalmeja Rishi, also called Rájá Agránd), which is said to have taken place at Safídon in Jínd. At that time there were no Gaurs in this country, and he summoned many from beyond the sea (*sic*). Half of them would take no money reward for their services; upon which he gave them 184 villages in these parts, when they decided to take no further offering in future, and became Tagás. The others took the ordinary offerings, and their descendants are the Gaur Bráhmans of these parts. Both retained their division into ten clans, and are hence called *dasnàm* Bráhmans.

The Hindu Tagás still wear the sacred thread, but Bráhmans do not intermarry with them, and will not even eat ordinary bread from their hands. Many of them are now Musalmáns. It must not be supposed that a Bráhman *now* relinquishing the priestly craft and taking to agriculture will become a Tagá; the Tagás were made once for all, and the limits of the tribe cannot now be extended. They are, as already stated, the oldest inhabitants of the tract; but are now confined to the parts about Hatwála and Barána. The Barána and Sanauli Tagás are of clan Bachhas, from Kalwa Jamni in Jínd; those of Púndri and Narsinghpur of clans Párásir, from the neighbourhood of Pehoa; those about Hatwála are of the Bháradwáj, Gautam and Sarohá clans, and come from Sirsa Patan, *viâ* the Khádar to the south of the tract. They are, as cultivators, superior to the Rájpút, Gújar and Bráhman;

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but fall very far short of Játand Ror. Their women are strictly secluded.

The Bráhmans.

Bráhmans hold only a small area in the tract, there being but few villages in which they have acquired any considerable share. But they own small plots in very many villages, being, for the most part, land given to family priests (*parohits*) by their clients (*jijmáns*) as religious offerings (*pun, dán*). They are vile cultivators, being lazy to a degree; and they carry the grasping and overbearing habits of their caste into their relation as land owners, so that wherever Bráhmans hold land, disputes may be expected. The local poverb goes *Bráhman se bura, Bígar se kàl.* "As famine from the desert, so comes evil from a Bráhman." The great mass of the Bráhmans of the tract are Gaur. Some of them belong to the Chaurásiá sub-division who assisted at Janamejaya's holocaust of snake, (see Tagás *supra*), and received a gift of a *chaurásí* of 84 villages. They are considered inferior to the Gaurs. There are also a few Sársút Bráhmans, who are said to be far less grasping and quarrelsome than the Gaurs, and are certainly less strict in their caste habits, so that Gaurs will not eat ordinary bread from their hands. The most common *gots* are the Bháradwáj, Bashista, Gautam, Bachhás, Parásir and Sándlas. The Bráhmans have, in almost all cases, followed their clients from their original abodes to the villages in which they are now settled. They hold little land. But there are two tribes of Bráhmans which, though they own no land at all, are of special interest; they are the Gújráti and the Dákaut.

The Gújráti and Dákaut Bráhman.

Offerings to Bráhmans are divided into *bár* or *graha* for the days of the week, and the two *grahin* for Ráhu and Ket, the two demons who cause eclipses by attacking the sun and moon. These two are parts of a *jin* (Rkáshas), who, when sitting at dinner with the gods and *jins*, drank of the nectar of the gods instead of the wine of the *jins*. The sun and moon told of him, and Bhagwán cut him into two parts of which Ráhú, including the stomach and therefore the nectar, is the more worthy. When any body wishes to offer to Bráhmans from illness or other cause, he consults a Bráhman, who casts his horoscope and directs which offering of the seven *grahas* should be made. The *grahins* are more commonly offered during an eclipse, that to Ráhú being given at the beginning, and that to Ket at the end of the transit. The Gaur Bráhmans will not take any black offerings, such as a buffalo or goat, iron, sesame (*til*) or *urd*, black blankets or clothes, salt, &c., nor oil, second-hand clothes, green clothes; nor *satnájá*, which is seven grains mixed, with a piece of iron in them; these belonging to the *grahe* whose offerings are forbidden to them. An exception, however, is made in favour of a black cow.

The *Gújráti* or *Bias* Bráhmans who came from Gújrát in Sindh, are in some respects the highest class of all Bráhmans; they are always fed first; and they bless a Gaur when they meet him, while they will not eat ordinary bread from his hands. They are fed on the 12th day after death, and the Gaurs will not eat on the 13th day if this has not been done. But they take inauspicious offerings. To them appertain especially the Ráhú offerings made at an eclipse. They will not take oil, sesame, goats, or green or dirty clothes; but will take old clothes if washed, buffaloes, and *satnájá*. They also take a special

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The Gújráti and Dákaut Bráhmans.

offering to Ráhú made by a sick person, who puts gold in *ghì*, looks at his face in it, an gives it to a Gújráti, or who weighs himself against *satnájá* an makes an offering of the grain. A buffalo which has been possessed by a devil to that degree that he has got on to the top of a house (often no difficult feat in a village), or a foal dropped in the month of Sáwan or buffalo calf in Mág, are given to the Gújráti as being unlucky. No Gaur would take them. Every harvest the Gújráti takes a small allowance (*seori*) of grain from the threshing floor, just as does the Gaur.

The *Dákauts* came from Agroha in the Dakhan. Rájá Jasrat, father of Rámchandar, had excited the anger of Saturday by worshipping all the other *grahá* but him. Saturday accordingly rained fire on Jasrat's city of Ajodhia. Jasrat wished to propitiate him, but the Bráhmans feared to take the offering for dread of the consequences; so Jasrat made from the dirt of his body one Daka Rishi who took the offerings, and was the ancestor of the Dákauts by a Súdra woman. The other Bráhmans, however, disowned him; so Jasrat consoled him by promising that all Bráhmans should in future consult his children. The promise has been fulfilled. The Dákauts are pre-eminent as astrologers and soothsayers, and are consulted by every class on all subjects but the dates of weddings and the names of children, on which the Gaurs advise. They are the scape-goats of the Hindu religion; and their fate is to receive all the unlucky offerings which no other Bráhman will take, such as black things and dirty clothes. Especially they take the offerings of Wednesday, Saturday, and Ket. They are so unlucky that no Bráhman will accept their offerings; and if they wish to make them, they have to give them to their own sister's sons. No Hindu of any caste will eat any sort of food at their hands, and at weddings they sit with the lower castes; though of course they only eat food cooked by a Bráhman. In old days they possessed the power of prophecy up to 10-30 A. M.; but this has now failed them. They and the Gújratis are always at enmity, because as they take many of the same offerings, their interests clash.

The Saiyads.

The principal Saiyads are those of Barsat, of the Zedi branch, and descended from Abul Faráh of Wasat in Arabia, who accompanied Mahmúd Ghaznavi, and, settling first at Chhat Banúr in Patiála and then at Sámbhal Heri in Muzaffarnagar, was the ancestor of the Chatrauli Saiyads. The Saiyads of Saiyadpur and Jál Pahár are Huseni Saiyads, the former from Mushad in Arabia, the latter from Khojand, near Khorásán. The Faridpur Saiyads are Músavi from Qazwin in Persia. All belong to the Bára Sáadát, who played such an improtant part in the latter days of the Mughal Empire. There is also a large community of Saiyads at Barás, descended from Sháh Abdál from Chist, who assisted Sikandar Lodi at the siege of Narwar and obtained a grant of part of the village. They have an old MS. family history of some interest. Mr. Ibbetson writes:—

"The Saiyad is emphatically the worst cultivator I know. Lazy, thriftless, and intensely ignorant and conceited, he will not dig till driven to it by the fear of starvation, and thinks that his holy descent should save his brow from the need of sweating. At the best he has no cattle, he has no capital, and he grinds down his tenants to the utmost. At the worst he is equally poor, dirty, and holy. He is the worst revenue-payer

in the district; for light assessment means to him only greater sloth. I have known a Saiyad give one-third of the yield of the grain-field to a man for watching it while it ripened; and if his tenants' rent is Rs. 10, he is always glad to accept Rs. 5 at the beginning of the season in full payment."

The Saiyads.

Miscellaneous and menial tribes.

Gadis.—The chief land-owning tribe left undescribed is the Gadís, almost always Musalmáns, who eat from the hands of almost the lowest castes. They are mostly of the Sarohe clan, and come from the Bágar or from the Ambálá district, where they are very numerous.

Kambohs, Ráins, and Mális.—The Kambohs, who are the very best cultivators possible, also come from the Ambálá district, where they have flocked in from Patiálá and settled in great numbers. The Ráins and Málís, who practise market gardening, are chiefly settled in the towns, where they cultivate as tenants.

Bairágís.—The Nimáwat Bairágís of Goli, Waisri, and Harsinghpur, the Rámá Nandi Bairágís of Sítá Máí and Bhandári, and the Rádha Balabhi Bairágís of Baráná and Matnauli own a good deal of land. Besides the monks (*sádhù*) of the monasteries (*asthal*) whose property descends to their disciples (*chelá*), who are called their *nádí* children, many of the Bairágís have married and become *Gharist* and have descendants by procreation, or *bindi* children, thus forming a new caste. This latter class is drawn very largely from Játs. The monastic communities are powerful, are exceedingly well conducted, often very wealthy, and exercise a great deal of hospitality.

Shekhs.—Of Shekhs proper (Arabs), the only representatives in the tract are the Qoreshís, Ansárís, and Muhájarín (Makhdúmzádah) of Panípat (see Chapter VI). But every low caste convert to Islám calls himself a Shekh, and such Shekhs are known in the district as *sidqí*. There is even a Mandhár Rájpút Musalmán family in the town of Karnál, which has taken to weaving as an occupation, and is called Shekh instead of Rájpút. The Mandhárs visit them, but will not intermarry. But the most remarkable Shekhs are a menial caste of that name, which is represented in almost every village by one or two small families, and from which the village watchmen have been almost exclusively drawn from time immemorial. The people say that it was the policy of the old Emperors to have some Muhammadans in every village, and that they therefore appointed and settled these people; and the story is not improbable.

Jogís.—There is a caste called Jogí, generally Hindu, which is one of the lowest of all castes, and receives the offerings made to the impure gods. They are musicians, and practise witchcraft and divination. They must be carefully distinguished from the *Kanphate Jogís*, or monks of Shiv, who are a sect of religious devotees and not a caste at all, and in fact do not marry.

Menial Castes.—The menial castes (*kamíns*) only hold land in the rarest possible instances. Their place in the village community is fully described in the next section. They are principally distinguished by their elaborate caste organization, which is so complete that their disputes seldom come into our courts. The heads of most of the communities live at Pánípat, except that of the washermen, who lives at Barsat. They are called *khalífa* for the tailor, *ráj* for the mason, *mistri* for the carpenter and blacksmith, *mahtar* for the sweeper.

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Village Communities and Tenures.

Miscellaneous and menial tribes.

And if you wish to be polite to any of the members, you address him by the corresponding term, just as you call a landowner *chaudhri* after the *chaudhri* or headmen of village groups, as a London street-boy will call a subaltern Captain or a Scotchman Laird, and as Artemus Ward called a London policeman Sir Richard. The sweepers worship a god called Lál Beg, a small shrine being erected in the yard, with a *ghara* sunk in the ground for him to drink out of. They give him sweetened rice on *Holi*, and at *Díwáli* sacrifice a white cock to him; and they burn lamps to him on Thursday night. They do not worship any of the other gods except at weddings, and then only after Lál Beg. They also hold a festival in honour of Bála Sháh on the 10th of Jeth, at which they balance on their fingers long poles with bundles of feathers at the top.

SECTION E.—VILLAGE COMMUNITIES AND TENURES.

Constitution of the proprietary body.

The proprietary body proper, which forms the nucleus round which the subsidiary parts of the community are grouped, includes all those who have rights of ownership in the common land of the village. It is seldom *wholly* confined to one single family, strangers having almost always obtained admission in some one or other of the ways indicated at page 101; and very often the community will consist of two distinct tribes or clans of the same tribe, holding more or less equal shares in the village. The community, however constituted, is almost always sub-divided into wards or *pánnas*, each *pànna* embracing a branch of the family descended from some common ancestor, and perhaps strangers settled by that branch if not sufficiently numerous to constitute a separate *pána* of themselves. The word *pánna* is also the local term for a lot (*pánna márna*, to cast lots), and is almost the only relic still remaining of the old custom of periodical re-distribution of land which seems to have once been so common in Aryan communities.* These *pánnas* are very commonly again sub-divided into *thulás*, which are also based upon community of descent. The village is represented by a certain number of headmen, *lambardárs*, generally one or more for each *pánna* or *thula*, according to size; and these again are assisted by *thuladárs*, a kind of assistant headmen who are not officially recognized. The headman has a considerable discretion in the choice of his *thuladàrs*; but the latter must be so chosen as fairly to represent the various genealogical branches of the community. The *thuladárs* are called by the Játs in the south of

*In 1841 the Board of Revenue wrote:—"The Board are aware that in the villages of Dehli proper, some of the fields remain unchanged from year to year and from generation to generation; but that some parts of the land are common fields, divided anew among the people year by year, and of which the shape and size are liable to continual changes. If this be the case in Hodal (Gurgáon), that should be looked to, and the common fields marked as such. Mr. Grant is now engaged in revising the field maps of Dehli with a view to the correction of this error." The holdings in the sandy parts of some villages are still periodically re-distributed; but this is a good deal because the wind effaces the boundaries, and makes them difficult to trace. The uncertainty of the yield, moreover, is one of the causes of the re-distribution, according to the people themselves.

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Constitution of the proprietary body.

the tract *lathâyits*—a word which originally means a quarrelsome fellow. The headmen and *thuladârs*, together with such men as have gained influence by age or ability, constitute the *panch* or village council—an institution which, though no longer recognized by us, still exercises considerable authority, is generally appealed to in the first instance, and successfully settles a very great number of disputes.

Village officers.

The figures in the margin show the number of *zaildârs*, chief headmen, and headmen in the several *tahsîls* of the district. The village headmen succeed to their office by hereditary right, subject to the approval of the Deputy Commissioner; each village, or in large villages, each main division of the village, having one or more who represent their clients in their dealings with the Government, are responsible for the collection of the revenue, and are bound to assist in the prevention and detection of crime. Chief headmen are appointed only in large villages where the headmen are numerous; they are elected by the votes of the proprietary body, subject to the sanction of the Deputy Commissioner. They represent the body of headmen, and receive Government orders in the first instance, though in respect of the collection of land revenue they possess no special authority or responsibility. In the *paranah* Indrí of Karnál *tahsîl* and the whole of Kaithal *tahsîl* now under Settlement no chief headmen or *zaildârs* have yet been appointed. The *zaildâr* is elected by the headmen of the *zail* or circle, the boundaries of which are, as far as possible, so fixed as to correspond with the tribal distribution of the people. The *zaildârs* stand in much the same relation to the headman of *zail* as a chief headman to those of his village. They and the chief headmen are remunerated by a deduction of one per cent. upon the land revenue of their circles or villages, while the headmen collect a cess of 5 per cent. in addition to the revenue for which they are responsible. The head-quarters of the *zails*, together with the prevailing tribes in each, are shown below :—

Tahsîl.	*Zaildârs.*	Chief headmen.	Village headmen.
Karnal ..	6	41	961
Panipat ..	7	102	713
Kaithal ..	..	..	861
Total ..	13	143	2,535

Tahsîl.	*Zail.*	No. of villages.	Annual land revenue.	Prevailing caste or tribe.
Parganah Karnál, *Tahsîl* Karnál.	Barás ...	19	7,560	Chauhán Rájpúts.
	Júndla ...	29	14,750	Rájpúts, Chauhán.
	Karnál ...	29	25,180	Játs.
	Gharaunda ...	35	31,685	Mandhár Rájpúts.
	Barsat ...	19	22,121	Játs.
	áchaur ...	22	22,285	Mandhár Rájpúts.
Pánípat ...	Pánípat ...	37	66,345	Játs.
	Khojgípur ...	41	48,290	Gújars.
	Jourasi ...	31	71,805	Játs.
	Naultha ...	23	53,150	Do.
	Korána ...	18	33,550	Rors.
	Bhálsi ...	16	26,150	Játs.
	Kábri ...	17	13,450	Gújars.

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Village headmen.

It appears from the old records that in former days there was one headman for each pánna. They had enormous authority, the distribution of the revenue being wholly in the hands of the thapà and village councils, of which they formed the hereditary heads. Their office was hereditary; though fitness was an essential, and the next heir would be passed over, if incapable, in favour of another member of the same family. When we acquired the tract the same arrangement was perforce continued for many years, as no record of individual rights or liabilities existed. But unfortunately the hereditary nature of the office, and the authority which should attach to it, were lost sight of. All the leading men of the village were admitted to sign the engagement for the revenue, and all that signed it we called headmen. The allowance (*pachotra*) which is given to these men took the form of a deduction from the last instalment of revenue if paid punctually, and was divided by all the engagers; in fact, it is even said that "all the owners shared it proportionally, and that it practically took the form of a mere abatement of revenue in which the whole community had a common interest."

In 1830 a field-to-field record had been introduced, and an attempt was made to limit the number of headmen, it being ruled that the people were to elect fresh headmen every year, who alone were to enjoy the allowance. The Collector of the time regretted the change. He writes in 1831:—"The great objection to the new "arrangement is that it is calculated to destroy the strong and honour-"able feeling of mutual good-will and attachment which formerly "characterized the intercourse *of the headmen or sharers, with the other "classes of the community.* The support and assistance which the "elders had it in their power to afford to the lesser cultivators ensured "their respect and obedience, and consequently the peace and good "order of the society. The power they possessed was considerable; "and, so far as the interests of their own village were concerned, was "scarcely ever abused." The words in italics show the light in which these innumerable headmen were then looked upon. The other members of the proprietary body were called *ráyats* or cultivators; and we find the Supreme Government asking for an explanation of the fact that some of the reports submitted seemed to imply that they too possessed a proprietary interest in the land.

The plan of having a new election of headmen does not seem to have been, in its integrity, carried into effect; but up to the settlement of 1842 the number of headmen was still inordinately excessive. We find a village paying Rs. 14,000 with 76 headmen, another paying Rs. 3,500 with 21, a third paying Rs. 5,500 with 23, and so on. In 1839 the Collector wrote that the matter had been "a continual fester for years." At the settlement of 1842 the Settlement Officer was directed to reduce the numbers largely, taking as a general standard one headman for every Rs. 1,000 of revenue. He found that among the crowd of so called headmen there were generally some who had enjoyed the office, either personally or through their ancestors, for a considerable period. These he selected; and, as far as possible, gave one headman at least to each sub-division of a village. At present the distribution is very unequal; villages with eight or ten headmen are not uncommon; and as each man often pays in only two

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to three hundred rupees of revenue, the allowance of 5 per cent. is, in such cases, quite insufficient to give any standing to the office. Mr. Ibbetson writes :—

Village headmen.

"I believe that the headmen, as a rule, make some small illegal profits from their office, as they seem to consider any small savings from the *malba* fund as their perquisite. But I think the money so appropriated is very small in amount; and the practice is, I believe, tacitly recognized as unobjectionable by the people. The only wonder is that cases of serious embezzlement are not more common. The mass of the people are quite illiterate and careless, and ignorant of their recorded rights. They seldom know the area of their holdings or the amount of revenue due upon them, while the half yearly accounts are, as a rule, Hebrew to them; and so long as they have not to pay very much more this year than they paid last, they are content to accept the total without too curious inquiry into the details. Of course there are many exceptions. Játs are, as a rule, much less disposed to trust implicitly in their headmen than are other castes; and in some villages every item in the accounts is subjected to the most rigid scrutiny. But, as a rule, either the village headmen or the village accountant, or both together, have money matters completely in their hands. While the headmen have thus very great power, our system has in a great measure deprived them of authority, and of the responsibility which attaches to it, and which is the best surety for rectitude. Yet the good faith which, I do most firmly believe, governs the mass of the people in their relations with one another, is apparent in this matter also. I have had very numerous petitions for audit of accounts, either from malcontents who wanted to get the headman into trouble and selected this as the easiest mud to fling and the hardest to wipe off, or from people who were startled by the enhancement of local and *patwári* cesses, the increased expenses incident upon survey, and the like. The investigation is always complicated, and I have always personally satisfied myself that it has been thorough; yet in only two cases, I think, have I found that the headmen had taken more than what might be called legitimate perquisites."

The village headmen enjoy certain privileges by virtue of their office. Thus, they and their heirs-apparent are exempt from the duties of village watch and ward (*thíkar*, S. V. Watch and ward *infra*). They have very generally a *chamár* attached to each as a personal attendant without payment further than his mid-day meal; and the body of *chamárs* generally have to give a day's work in the fields of each, though, as they expect to be feasted on the occasion, the service is more of an honour than a profit to the recepient. The right of succession runs in the eldest male line; and the right of representation is universally recognized, the deceased elder son's son taking precedence of the living younger son, though the former may be a minor, and a substitute may have to be appointed to do his work.

Village tenures.

Table No. XV shows the number of villages held in the various forms of tenure, as returned in quinquennial Table No. XXXIII of the Administration Report for 1878-79. But the accuracy of the figures is more than doubtful. It is in many cases simply impossible to class a village satisfactorily under any one of the ordinarily recognised tenures, as will appear from the following description by Mr. Ibbetson of the tenures of that portion of the district settled by him :—

"The villages of the tract have, for the purposes of Settlement, been classified as follows :—64 held wholly in common by the body of owners

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(*zamíndári*); 22 divided among the several branches of the community according to ancestral shares (*pattídári*); and 250 held in severalty by the individual households, the holding of each being quite independent of any fixed scale (*bháyáchára*). But this classification is practically meaningless. Of the 64 *zamíndári* villages, 44 are held by the Skinners, the Mandals, or purchasers from them; 9 are small uninhabited plots of land belonging to larger villages, but having separate boundaries of their own; and 8 are on the river edge, where the uncertainty of the river action renders the joint stock tenure the only one which can ensure individual proprietors against serious loss or utter ruin. Of the 22 *pattídári* villages, 7 are small uninhabited plots of land as above, and 4 are subject to river action; while in most of the remainder the property of individual households is regulated by possession and not by shares, though the several main branches of the community have divided the village by shares. On the other hand, in the 250 *bháyáchára* villages, though the common land has not yet been divided according to shares, yet the interest of the several branches of the community in that land is strictly regulated by ancestral shares in a very large number, if not in a majority of instances. The fact is that a village may have four or five *pánnas* with two or three *thulás* in each; there may be common land of the village, of each *pánna*, of each *thulá*, andof two or more *thulás* and *pánnas* jointly, the scale of separate interests in each varying in its nature from one to another, and each single family holding by possession and not according to shares: so that it is, as a rule, impossible to describe the tenure of a village in a word, or to classify it satisfactorily under the recognized headings (see further the remarks quoted below upon the growth of property in severalty)."

Proprietary tenures.

Table No. XV shows the number of proprietors or shareholders and the gross area held in property under each of the main forms of tenure, and also gives details for large estates and for Government grants and similar tenures. The figures are taken from the quinquennial table prepared for the Administration Report of 1878-79. The accuracy of the figures is, however, exceedingly doubtful; indeed, land tenures assume so many and such complex forms in the Panjáb that it is impossible to classify them successfully under a few general headings. The following discuisson of the origin of property in severalty in Karnál is taken from Mr. Ibbetson's Settlement Report:—

Property in severalty a creation of our own.

"I think there can be but little doubt that, till the English rule, individual property in land, in the sense in which we understand it, was unknown in the tract. Each village held the area surrounding its homestead, the dividing boundaries being hardly defined. Land was plentiful, cultivators were scarce, almost anybody was welcome to break up as much as he could cultivate, and the owner who induced a tenant to settle and bear a share of the burden of the revenue conferred a benefit on the community at large. The distinction between the members of the proprietary body and mere tenants holding from them was of course carefully preserved, the latter having no voice in the management of the village, and making formal acknowledgments of their subordinate tenure; but, as will be presently seen, so far as actual burdens were concerned, there was practically no distinction between the two classes. The land was carefully divided according to quality so that each should have his fair share, and 'the same rule was observed when a new comer was admitted to cultivate.' The long dividing lines at right angles to the contours of the country, which mark off the valuable rice land into minute plots and the inferior sandy soil into long narrow strips, including a portion of each degree of quality, and the scattered

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nature of each man's holding, still show how carefully this was done. The revenue was then distributed equally over ploughs, or, when a survey had been made, over cultivated areas; and as it absorbed all the margin that was left after supporting the cultivator, rent was unknown, all cultivators alike paying the demand upon the areas which they cultivated. The ancestral shares of each household of the landowning community were carefully observed, and regulated the interest of each in the common lands, and perhaps the adjustment of the minor village accounts; but the area of land held by each in cultivating possession varied with its ability to cultivate, rather than with its rateable share in the village. But the idea that the plot of land so held by each was his own, to do what he pleased with was utterly foreign to the idea of the people. Sales of land were unknown; and when an owner became, from failing appliances, unable to cultivate as much as formerly, the community arranged if possible for the cultivation of the abandoned fields, while he remained responsible for the revenue of only so much land as he actually held.

"When we first made records of rights in land, our primary object was to obtain a record of liability for revenue, which depended wholly upon cultivating possession. But we went further than this. We, of course, preserved as a rule, though not always with entire success, the distinction between owner and tenant; but instead of recording each constituent household of the proprietary body as entitled to a fractional share in the village, and *as holding in cultivating possession* the land cultivated by its members or by tenants whom they had settled, we recorded and treated it *as absolute owner* of this and other land occupied by tenants which they had settled, and entered as common property of the village only such land as was either uncultivated, or was held by tenants who had been settled by the village in general or by one of its sub-divisions. The proprietary rights so recorded are now, of course, indefeasible. But I believe such property in severalty, based solely upon actual possession, to have been entirely a creation of our own; that before our times the breaking up of land gave the cultivator a right to hold that land undisturbed so long as he paid the revenue on it, but gave him no further rights; and that it gave him this much whether he was an owner or not. In old days, members of the proprietary body returning to the village after an absence of even half a century or more were admitted to their rights without question; and there is still a strong feeling against rights being extinguished by absence from the village. In every single village that I can call to mind in which cultivation dates from *after* our record, the rights are regulated by shares and not by possession, though individuals cultivate and pay revenue on areas quite independent of their shares. In families owning land jointly, the *property* in it is strictly regulated by shares; though, as of old, the land is often divided for cultivation between the various members according to the extent of the appliances at the disposal of each without regard to those shares, each man paying revenue on the land he actually cultivates and taking the whole of its produce. But this division does not confer any proprietary right in the land so held. Theoretically, each household in a village is entitled to break up common land in proportion to its proprietary interest in it. But as a fact the area so broken up depends entirely upon the ability to cultivate, and the man who breaks it up has a right to hold the land so long as no complete proprietary division is made, though he acquires no individual property in it. And the whole history of tenant-rights as sketched below points to the same conclusion. Finally, the general voice of the people, who have now quite accepted the new order of things, and have no wish to disturb it or to revert to the old order, affirms this view of the case; and in the Mandal

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tract, where no record was framed till 1847, there can be no mistake about the matter. In short, wherever we have not interfered by a record to confuse cultivating possession and absolute ownership, the people carefully distinguish the two tenures; and the distinction is one which I am anxious to insist upon, as the courts often show a tendency to assume that cultivating possession is adverse, and can become proprietary right by lapse of time. This I do not believe to be the case, though, till a complete division of property is made, the possession cannot probably be disturbed. The erecting the cultivating sharers into separate owners probably works but little injustice; but it was, I believe, founded upon a mistake. The old correspondence bears copious testimony to the universal recognition of fractional shares as a 'theoretical' scale of property, though it comments upon the discrepancy between this scale and the actual holdings, which it always talks of as proprietary."

The present state of affairs, then, is this. The fractional shares of the whole village and of the chief sub-divisions of the village to which each main branch of the community is entitled, are still recorded in the papers, and very generally measure their interest in the common land. But the internal distribution of property in the common land between the constituent households of each main branch is almost always regulated by the areas held in severalty. Even when the holdings in severalty regulate the primary division of the common land also, which is most often the case in villages held by two or more different tribes, who can, of course, have no ancestral scale of rights, the recognized shares which used to measure the rights of each are very often recorded in the papers of last Settlement, though it is at the same time recorded that they are no longer acted on. And instances are by no means uncommon where the wards of a village, in the face of a distinct record that their rights are proportional to their holdings in severalty, have yet, at division, reverted by consent to the old shares, although the reversion involved a loss to one or other of them.

The family. Rules governing the devolution of property.

The land owned in severalty by individual families is not only inherited, but is also invariably divided on the occasion of separation of property, in strict accordance with ancestral shares. The members of the family often divide the land among themselves for convenience of cultivation more in accordance with the appliances at the disposal of each than with the proprietary shares, just as the common land is allotted to the various families on a similar scale. But this division is not a division of property, and the right of the members to a re-distribution according to shares, with due regard to the preferential right of each to the land he has cultivated so long as it does not exceed his share, is always recognized by the people, though sometimes (not often) contested by the individuals concerned.

The rules of inheritance are as follows :—No practical distinction whatever is made between divided and undivided families; in fact, the terms are hardly ever used.* First the sons and sons' sons by

Mr. Ibbetson, from whom this abstract is taken, writes :—"I need hardly say that all my remarks refer *solely* to the landowning castes, and not to Banías and the like. They also do not apply to the *original* Musalmáns, who usually follow the Muhammadan law. Moreover, in these matters I only give the general customs Particular exceptions, though far less numerous than might be expected, will be found recorded in the record of common customs."

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stirpes how low soever, sons representing their dead fathers. In the absence of them, the widow takes an interest strictly limited to a life tenancy. If there is no widow, or after her death, the brothers and brothers' sons how low soever inherit by stirpes with representation. In their absence the mother takes a life interest. After these the inheritance goes to the nearest branch in the male line, the division at each stage being by stirpes. Daughters, if unmarried, have a claim to maintenance only. If property is separately acquired by a son in a divided family during his father's life, the father inherits before the brother; but separation of interest before the father's death is not allowed, and no separate property can be acquired by the individuals of an undivided family. The father may divide the land for convenience of cultivation; but on his death, or the birth of another son, it will be open to re-distribution.

In attesting the record of common customs the whole countryside has declared that where there are three sons by one wife and one by another, all four share equally (*págband*). But there have undoubtedly occurred instances in certain families, especially among the Rájpúts of the Nardak, where the division has been by wives (*chúndáband*). Where *chúndáband* is the rule of division, the full brothers and their representatives succeed to the exclusion of the half-blood; otherwise there is no distinction between the two. All sons, whether by original marriage or re-marriage (*karewa*), are on an equal footing; no priority is attachable to the sons of any particular wife. But if a Rájpút Musalmán should marry a woman of another caste, as they sometimes do especially in the cities, the sons do not inherit at all, the property going strictly in the tribe.

A son born less then seven months after the marriage is consummated, even though begotten by the husband, and one born more than ten months after death or departure of the husband, is illegitimate. An illegitimate son cannot be legitimised, nor can he inherit. A son by a former husband brought with her by a woman on her re-marriage, who is called *gelar* (*gel* together with) if born, and *karewa* if unborn at the time of the re-marriage, inherits as the son of his begetter. A member of the family who becomes a monk (*sádhu*) loses his inhereitance; but does not do so merely by becoming a beggar (*faqír*). But the disciples of monks inherit from them as their sons. The life-interest of widows subsists so long as one is alive; and is shared by all equally. But a Musalmán widow of another caste has no interest; and a widow who re-marries loses all rights even if she marries the husband's brother. Pregnancy also destroys their rights; but not mere reputed unchastity. Their rights are not contingent upon their living in the husband's village. Woman's separate property (*strídhan*) is unknown. It is remarkable how wholly, in the minds of the people, the family is represented by its head. At the Regular Settlement the name of the head only was recorded as a rule; and the people still think that it is quite sufficient to send their heads to represent them in court or elsewhere. This feeling, however, is weaker among the Játs than among other tribes; and they have become notorious in consequence.

Admission of strangers into the family and alienation.

The great object of these rules is to preserve the family property to the agnates. A man without a son, or whose only son has changed

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his religion, can always adopt (*godná*, *godlená*); and a widow left sonless can adopt at will, except among the Játs, where, unless the husband has selected the boy, the consent of the heirs is necessary. But the boy to be adopted must be a brother's son, or if there are none available, a cousin in the male line; and no relation in an elder degree than the adopter can be adopted. No cognate can in any circumstances be adopted except by consent of the next heirs, nor can an only child, except among the Rájpúts. The Bráhmans, however, can adopt sisters' and daughters' sons. There is no restriction as to age, nor as to investiture with the sacred thread, nor that the boy shall be the youngest of the family. The adopted son takes as a real son with children born after his adoption. If the division is by wives, he takes his share first *per capita* of all the sons, and the remainder divide by *chúndáband*. He loses all rights in his original family; and even if his original brothers sould die, can only inherit as the son of his adoptive father. A second adoption can only take place when the boy first adopted has died, and can be made by any widow who could have adopted in the first instance. The ceremony of adoption is as follows :—The man seats the boy in his lap (*god*), feeds him with sweetmeats in the presence of the brotherhood, and declares that he has adopted him. If a woman adopt, she gives him her nipple to suck instead of sweetmeats. Sweetmeats are in every case distributed to the brotherhood.

There is a custom called *ghar jawái*, which consists in a sonless man settling his daughter's husband (*jawái*) in his house as his heir, when he and his son after him inherit on the death of the father without son; though if he die sonless the property reverts to the original family, and not to his own agnates. He retains his rights in theory in his original family, though he often abandons them in practice. There is no doubt whatever that this custom *did* obtain, for many present land-owners have obtained their property in this way. But the feeling is strongly against it. The Játs, Rors and Kambohs strenuously deny the right. The Rájpúts and Gosáins say that the son-in-law does not inherit. The Gújars and Bairágís admit that the custom occurs. The Bráhmans say that the son-in-law cannot inherit, but his son, if he has one, can. Perhaps the real state of the case is that the thing is often done by tacit consent, but that probably the next agnates could forbid it. The existence of the name as a well-known term shows that the custom does obtain in some degree.

A man may make a stranger of another clan his *bhúmbhái* or earth brother, if his near agnates consent, in which case he gives him a definite share of his land on the spot, and the *bhúmbhái* loses all rights of inheritance in his original family. The ceremony is completed by public declaration of the transfer and the consent, and by the usual distribution of sweetmeats. According to Elliott the *bhúmbhái* could not formerly dispose of his land, but this no longer the case. But some hold that if the *bhúmbhái* has no near agnates, the land reverts to the family of the donor.

Under no circumstances, except as above mentioned, can a land-owner make a gift of land out of the agnate community; and not even within it, except among the Rors; and then if the gift is made

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in the absence of sons, and a son is born afterwards, it is resumable. Small gifts of land as religious endowments are, however, recognized. Wills and bequests are practically unknown. In old days sales of land were unknown; and even now they are, though of course judicially recognized, not very common out of the agnatic community. The right of pre-emption by agnates is universally recognized in the order of right of permanent inheritance, and is almost always asserted by summary petition; but, owing to the uncertainty felt by the people as to the action of the courts, and the costliness of an appeal to them against a purchaser who is usually well off, is often not pursued to trial.

Muhammadan customs.

The above abstract of customs applies only to all Hindus and to Musalmán Játs, Gújars, Rors and Kambohs, and to Musalmán Rájpúts except the Túnwars of the town of Pánípat. These last, who are all Musalmáns, and live in daily contact with original Musalmáns, follow in many respect the law of Islám. *Per contra* the Saiyads who live in the villages only have adopted several of the Hindu restrictions on inheritance and alienation. In both classes, for instance, sons and sons' sons &c., exclude all other heirs. The original Musalmáns of the cities follow the law of their faith with very little divergence. The Ráins, who are all Musalmáns, hold a sort of intermediate position between the two.

Inferior proprietors.

The inferior proprietor (*Milik adná*) has full right of property in his holding in severalty, but has no rights of ownership in the common land, the share which appertains to his holding still belonging to the person from whom he acquired it. This class of proprietors is exceedingly small, and was not distinguished at all in the records of the Regular Settlement. In some cases it has been shown that people who do not belong to the proprietary community proper, but who had, by virtue of long possession or otherwise, or by consent, been recorded at Settlement as owners, have been continuously excluded from participation in all special proceeds of the common land, such as compensation for common land taken by Government, and as distinguished from the periodical proceeds which the whole cultivating body shares; and these people have been entered as inferior proprietors, their status having been occasionally fixed by judicial decisions. Some few people, too, have acquired land since the Regular Settlement, admittedly in inferior ownership. And a good deal of land in the old cantonments was declared, after full investigation in 1852, to be held as inferior property (see next paragraph). But the status is quite exceptional, and may almost be said to be non-existent throughout the greater part of the district.

Tenure of Karnál Cantonment lands.

When Karnál was first acquired by us, a considerable area of land close to the town was occupied by the cantonments; and this was added to at various times as military requirements expanded, yearly compensation for the revenue so lost being paid to the Mandals. When the cantonment was moved to Ambálá, the land was occupied for the purposes of a remount depôt. But as much of it was not needed, it was decided to give up the whole, and lease from the owners so much of it as might be required. But much capital had been expended in the construction of houses, gardens and

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the like; and the properties so formed had changed hands for consideration. It was therefore necessary to recognise the interests so acquired. In his minute dated 16th February 1852, laying down the principles upon which the revision of Settlement of 1852 should be made, the Lieutenant-Governor remarked as follows :—

"The Government have determined to relinquish the lands of the Karnál cantonments to the proprietors. The lands will revert to the *biswahdárs*, between whom and the Mandals the revenue officer must determine a fair *jama*. All the unoccupied lands will be given up unreservedly to the community of *biswahdárs*. * * * * The houses and compounds occupied by individualss hould be considered as inferior property (*vide* § 118, Directions to Settlement Officers), and a fair *jama* fixed upon them, to be paid by the occupants to the *biswahdárs*, of which *jama* nine-tenths will go to the Mandals, and one-tenth to the *biswahdárs*. If any land is retained by Government as attached to their own buildings, this should be entered as *minhái*; and if it is of considerable extent, a corresponding portion of the payment now made to the Mandals must be continued. But if the land retained is of small extent there will probably be no objection to discontinue all further payment, and leave the matter thus."

A careful investigation was therefore made on the lines thus laid down. The area retained as Government property was very small, and remained unassessed. Certain occupied plots were declared the inferior property of the occupiers, and the remainder common land of the village. In 1855-56 Government declared these inferior properties to be transferable and heritable. Some few of the occupiers who could show no sufficient title had been decided to have only a right of occupancy for life, and were so recorded. In some of these latter cases the village has recovered the land on the death of the occupier ; in others the heirs are still in possession, and have in some cases judicially established their proprietary right. A considerable area of pasture land has been held from that time by Government on a lease at a very moderate rent for the purposes of a breeding stud, and, latterly, of a cattle farm.

Riparian custom.

The deep stream is recognised as the boundary between villages on opposite sides of the river all along the part of the Jamná recently under settlement. In 1878 a considerable cultivated area was given up without dispute by the Tándá people to our villages under the operation of this rule. The custom is recorded in the administration papers on both sides of the river. Mr. Ibbetson writes :—

"In former days a custom existed throughout the riverain villages of the tract, that, when an individual land-owner had his land cut away by the river, an equivalent area from the common land was given him in exchange, the loss being thus borne, as far as possible, by the whole community. Numerous old letters attest the universality of this custom. Unfortunately, the old administration papers are silent on the subject. Yet in 1856 the Government, in concurrence with the Board, ruled that although no provision was contained in the Settlement record, yet the allotment of common land in these cases was borne out by usage, and should be enforced. In preparing our new administration papers, I directed particular attention to the record of this very admirable and equitable custom, wherever it might still be found to exist. In some of the villages it was found in full force, and recorded accordingly; in fact, I know of several instances in which it has been acted upon within the last few years. But in

many villages the people declared that no such custom now obtained; and I did not think it right to propose them to record for future guidance a rule, however admirable, which they averred was not at present in force. But the decadence of the custom is much to be regretted. Its principle is an admirable one, and one that, in my opinion, ought to be extended by legislative enactment to all cases in which the landed property of individuals is taken up by Government for the good of the public. The loss to the individual is absolutely irreparable; and no money compensation can cover it. If, however, common land were given in exchange, and part of the compensation paid to the village, the injury would be reduced to a minimum."

Riparian custom.

Table No. XVI shows the number of tenancy holdings and the gross area held under each of the main forms of tenancy as they stood in 1878-79, while Table No. XXI gives the current rent-rates of various kinds of land as returned in 1881-82. But the accuracy of both sets of figures is probably doubtful; indeed, it is impossible to state general rent-rates which shall even approximately represent the letting value of land throughout a whole district.

Tenants and rent in general.

The status of the tenant with right of occupancy, which has been the subject of so much dispute, was found to exist in this district in the days of the early Summary Settlements. In 1829-31 elaborate reports or the tenures of the tract were prepared for Government on lines laid down by it. From these we find that these tenants included all regular cultivators, whether resident or of another village; and that the tenants at will consisted wholly of "village "servants, itinerant cultivators, persons who, from a variety of causes, "may have temporarily abandoned their village, and individuals "who do not make agriculture their chief occupation, such as "weavers Baniás, &c. They usually receive from year to year such "portions of land as their needs may require, sometimes from the "community, but more often from individual members, *usually* on "the condition of becomming responsible for the corresponding "portion of the revenue. Occasionally the landlord receives a very "trifling amount of rent; but more frequently he shares the produce "according to agreement, and is alone responsible for the dues of "the State. These tenants are at liberty to give up the land when "they please, and are removeable at the will of the community or "landlord." All other tenants save those described above could not be ejected so long as they continued to occupy their lands and to pay their share of the Government revenue. They shared equally with the owners in the proceeds of the common lands, such as the sale of firewood or grass, or grazing dues paid by other villages. The title of the landlord was preserved by "the form of demanding the *sírínah* "or one-fortieth of the produce, when perhaps only a few grains were "granted as an acknowledgment of holding the land from a superior," or by the tenant paying his share of the village expenses through his landlord, or by the landlord's family priest taking his dues from the tenant also. These tenants, moreover, did not "claim the rights of "sale or transfer; but, with the abhorrence with which the cultivating "class view the sale of land, they are on an equality in every essential "particular with the landlord." The non-resident (*páhí*) cultivator even paid only 75 per cent. of the revenue which he would have paid had he been resident, and bore no share of the village expenses; yet he enjoyed equal rights of occupancy with the resident tenant, and,

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in fact, "possessed every substantial benefit in an equal degree with the owner, while paying much lower rates." The Settlement Officer pointed out that "it was chiefly the good faith which all classes of the community preserve in their dealings with each other," that prevented awkward claims by tenants to proprietary rights, and "rendered disputes very infrequent with respect to property so ill-defined." As a fact these tenants have, in some cases, been declared owners by the courts on the ground that the tenants had always enjoyed a share of the common produce, and in apparent ignorance of the fact that such was the almost universal rule throughout the district. The Collector of 1831 who had had long and intimate experience of the people, and whose report was most interesting and complete, discussed at length the apparent hardship to the owner involved in these tenures, especially those of non-resident tenants, and the advisablity of recognising his right to rent in some form; but he summed up strongly against it, as opposed to the ideas of the people, and certain to be productive of endless disputes and ill-feeling.

It is curious how slowly this state of thing has changed. When the revenue absorbed the whole margin left from the produce after supporting the cultivator, it was natural that rent should be non-existent. In fact revenue was rent, as the use of the terms revenue-free and rent-free as synonymous for lands of which the revenue was assigned shows. It was not till about 1850 that Government interfered to limit the demand of assignees of land revenue to the Government share of the produce; and previous to that date they took rent from the owners exactly as if they had been landlords themselves. But, as the Government demand was gradually limited to a moderate share of the produce, a margin was left in favour of the producer from which rent could fairly have been taken. As a fact, in the Nardak, where the Mandal assignees took rent from owners and tenants alike till 1847, and where the uncertainty of the yield renders it easier for a man without capital to pay a share of the produce than a share of the revenue, because, although the total amount paid is larger, it is paid in instalments which vary with the means of paying it, tenants, as a rule, still pay a share of the produce (*batái*). But throughout the rest of the district, except in the city of Pánipat and one or two similar revenue-free villages held by non-cultivating owners, where cash, and still more commonly, grain rents have always been taken, and excepting, of course, the Skinner villages, rent is still almost unknown. Mr. Ibbetson writes:—

"I know of hardly a single case outside the cities and the villages already mentioned, in which rent is taken from tenants-at-will, even whose cultivation dates from last Settlement. Tenants of later standing, and especially those who have only lately begun to cultivate, often pay rent; in the Khádar perhaps generally. But in a *very* large number of cases they still pay revenue only; and where rent is paid it is generally very much below the competition value of the land. This state of things is, however, gradually changing. The people have awakened to the possibility of demanding rent, a good deal, I think, in consequence of Settlement operations, the inquiries attending them, and the new ideas which they have suggested. The change is, however, extraordinarily

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slow. Even now the *great majority* of tenants pay no rent; and especially is there a strong feeling in favour of the tenants-at-will of old-standing; in fact the people are inclined to deal more leniently with them than with the occupancy tenants, for the former claim no rights, while the latter do. Of course the equal distribution of revenue over the land does, in fact, mean a certain degree of profit to the owners; for they generally hold the best land, so that they pay less for their land in proportion to its value then the tenants pay for theirs; while, on the outlying and inferior portions, the revenue thus distributed, especially in the Khádar, is often a very fair rent for the land."

Tenants of village common land.

The difficulty with which the idea of rent is received is well exemplified in the cultivation of the common land. Of course an individual owner cultivating this land is really a tenant holding from the community as a whole. But the idea of taking rent from him is, even now, quite beyond the capacity of the people. The owner who breaks up common land will, of course, pay such revenue as the method of distribution of revenue in force will allot to it; but he has by common custom a right to hold the land free from liability of ejectment until a division is effected; and even then the land must be included in his share, except in so far as it exceeds the area to which he is entitled. Cases have been not infrequent in which the people have, at division, allowed individual owners to retain the common land which they had broken up, even though considerably in excess of their share; and it is by no means uncommon for owners to build wells at their own cost in the common land, so certain do they feel of the security of their tenure. In short, as already pointed out, the conclusion is irresistible that, in old times, anybody who broke up new land, or even who was given old land to cultivate except as an obviously temporary measure, acquired a right to hold that land so long as he paid the revenue on it; and that, whether he were an owner or not. The revenue was so heavy that the village was only too glad to get cultivators to accept land on these terms; and the explanation of the fact that the people even now fail to distinguish between occupancy tenant and tenants-at-will of any standing is, not that old custom failed to raise the ancient tenants approximately to a level with owners, but that it treated both owners and tenants of all kinds alike so far as their right of cultivating possession was concerned. In 1850 the Sadr Board ruled that "the common custom of India gave to the man who reclaimed waste a right to transmit the land to his descendants." That is the common custom here; but that what he transmits is the right of cultivating possession, and not of property.

Kinds of rent and other tenants' dues.

Grain rents (*ijára*) are mostly in vogue in the city of Pánipat and the few similar villages near it. They are usually paid one-third in wheat and two-thirds in the inferior grains. Cash rents are taken chiefly in the Khádar, either as a lump sum (*chakotá*), or a percentage in addition to the revenue (*málikána*), or a rate per *bìgah*. A share of the produce is taken either by actual division (*batái*), or by estimate of the yield (*kan*). The owner takes no share of the fodder except when the grain has failed and only fodder is produced. The dues of the *chamàrs* and the allowances of the Bráhman and Siyad are deducted in *batái* before the division is made; the dues of other village menials are paid by the cultivator alone. Where a share of

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Kinds of rent and other tenants' dues.

the produce is taken, money rates on area for each staple (*zabti*) are generally taken on sugar, cotton, tobacco, pepper, most vegetables and spices, *methi*, and *chari* grown for fodder only; as in all except the last two, which are purely fodder crops, the produce is not collected at one time and spot, so that division would be difficult and dishonesty easy. In the Khádar and Bángar the share of the produce commonly taken is one-third on all lands, though the Skinners take two-fifths on unirrigated crops, as they consist largely of fodder crops from which the land had taken nothing. In the Nardak the custom is to take one-fourth only; but irrigated or highly cultivated land, the area of which is very small, is never let on these terms.

The tenants, as a rule, are responsible for providing carts and bedsteads for the use of Government officials. But in the villages they pay no other dues. In the city of Pánipat and the similar villages near it they generally pay many miscellaneous dues (*abwáb*), such as milk, green wheat for fodder, earth for mending houses, dung-cakes, &c.; and the Skinners also take many extra cesses, often making their tenants pay all the Government cesses, the *lambardári* allowances, the *patwári's* pay, and a levy on account of expenses of management called *kharcha*. There are some very curious dues paid in the city of Pánipat which, though not actually rent, are paid by purchasers of land to the original proprietor from whom they purchased it, in consideration of certain rights of ownership which did not pass with the sale. The principal of these are *haqq raqbah* and *haqq áb*. If a man sells his fields, his property in the *daul* or dividing ridges does not pass unless expressly specified; so he takes what is called *haqq raqbah*, and is responsible for keeping the ridges in order. So again, if the well was not distinctly specified, the property in it does not pass, though the soil in which it stands being no longer his, he cannot get near it to use it. But he takes *haqq áb*, and it is a disputed point whether he cannot forbid the purchaser to use the well. Each of these dues is generally fixed at one-eighth of the rent or owner's share of the produce. Again, if a man wishes to carry water along another's *daul*, he pays *daulánáh*—generally a lump payment of 5 to 10 seers a harvest.

Petty village grantees.

The last two lines of Table No. XVI show the number of persons holding service grants from the village, and the area so held. But the figures refer only to land held free of revenue, which is by no means the only form which these grants assume. Sometimes the land is leased to the grantee at a favourable rent, or on condition of payment of revenue only; sometimes the owner cultivates and pays the revenue, making over the produce to the grantee; while occasionally the grant consists of the rights of property in the land, which, subject to the usual incidents, such as responsibility for revenue and the like, vest in the person performing certain specified services at such time and for so long as he performs them. These grants are most commonly made to village menials and watchmen on condition of, or in payment for services rendered, to attendants at temples, mosques, shrines, or village rest-houses so long as they perform the duties of the post, and for maintenance of monasteries, holy men, teachers at religious schools, and the like. They are called *dohlá* grants; are usually made by the village or a sub-division of it,

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Common expenditure of the village.

less frequently by individual owners; and are personal to the grantee and resumable at pleasure, though seldom resumed, and often continued to heirs.

Every village keeps open-house to the countryside. A traveller (*bateo*) who has no friends in the village puts up, as a matter of course, in the common-room (*chopál* in the north, *parás* in the south) of the village, and receives food and tobacco free; though he will, if possible, choose a village inhabited by his own tribe. Every Government servant passing through the village is fed in like manner; and though this custom is a source of considerable expense to villages on the main roads, it is founded upon the feeling of the people, and not primarily upon the extortion of the officials. Hospitality of this sort is considered a social duty; to refuse it is an insult, and a village which was grudging in its exercise would have dishonour in the sight of its fellows. Mr. Ibbetson writes:—"The people will never take "payment for anything supplied by the village as a whole from its "own stores, such as milk, wood and grass; and when a headman "brings hot milk of a brown colour from an earthen vessel in the "pores of which milk has daily gone sour for some months past, "throws in some sugar from a corner of his not over-clean *chádar* in "which it has been tied up, stirs it up with his finger, blows on it to "cool it, and offers it you to drink, it is very difficult to save at the "same time your own stomach and his feelings. When attesting our "records in the villages, arrangements had to be made to constantly "shift our quarters so as to allow the people in attendance to go home "every night; otherwise the burden of hospitality thrown upon the "village where the work was being done would have been excessive." The headmen, when absent on village business, charge their expenses, and often perhaps a little more, to the village account. The village common-room, the village shrines, the drinking well, and other public structures, have to be maintained and kept in repair, and occasionally new ones built. Small religious offerings are made on occasion in the name of the villagers; and a menial settling for the first time in the village generally receives some pecuniary help to enable him to start fairly. Process fees (*dastakáná*) too, are levied on the village if the revenue is in arrears. All these and similar expenses constitute the common expenditure of the village called *malbá*, literally meaning refuse, sweepings, because of the many miscellaneous items which it includes.

There is generally a *banyá* appointed as *malbabardár* for the village or a sub-division of it; and the headmen draw the necessary funds from them, the accounts being audited by the community when the half-yearly instalment of revenue is collected. The old administration papers fixed a very high limit, generally 6¼ per cent. on the revenue, beyond which the headmen could not incur these expenses without the *previous* sanction of the community. In the papers of of the Revised Settlement the very much narrower limits fixed by Financial Commissioner's Circular No. 4 of 1860 have been inserted. The headmen grumbled dreadfully; for village hospitality accounts for most of the expenses, these *must* be incurred, and in many of the larger villages the necessary expenses will no doubt often exceed the limits; while among the Játs, at any rate, some of the evil-disposed

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are tolerably certain to object whenever they have an opportunity of making things uncomfortable for the headmen. But, on the other hand, it is probable that the headmen used often to make illegitimate profits from the *malbà*, realizing up to the limits fixed without regard to the expenditure.

Common income of the village: village dues.

The proceeds of the village may be divided into two classes; *first* are the occasional proceeds derived from the sale or lease of common property, such as the sale of jungle, the lease of pasture to travelling herds of cattle, the sale of the nitrous efflorescence (*rehì*), which abounds in old homesteads, for the purpose of manure or the manufacture of saltpetre, the small dues sometimes realized from carts which come for dry firewood, the fine often paid by strangers for permission to collect kino, to cut thatching grass, and the like. These are, if of any material amount, generally divided at once among the owners, and the tenants have no share in them. If petty, they are paid in to the credit of the general *malbà* accounts. The *second* class consists of the regular dues, which are included in and collected with the half-yearly revenue account, and in which all revenue-payers, whether owners or tenants, share proportionally. The most important head of income is the *kùrhì kámíni* or hearth tax. This is collected in almost every village, and the usual annual rate is Rs. 2 per hearth; but in small villages, where the common expenses are inconsiderable, it varies with their amount. Thus the fact that it has not been collected at all for several years, when other common income has been sufficient to cover the common expenditure, is by no means decisive against the right to collect. It is paid *only* by non-cultivators; and *Dákauts*, sweepers, *Dùms*, barbers, and washermen, so long as they exercise their calling, are exempt. It formed part of the old *chaubáchha* or four-fold levy taken in old days on *pàg*, *tàg*, *kúrhí*, and *pùnchhì*, or the head-cloth of the men, the waist string of the male children, the hearth of the non-cultivators, and the tails of their cattle; and which was often had recourse to cover losses caused by cultivators abandoning their lands and failing to pay the revenue due on them. Mr. Ibbetson thus discusses the nature of the *kúrhí kamíni*:—

"The courts, up to the Chief Court I believe, have held that this cess is in the nature of a ground rent paid by non-proprietors on account of the land occupied by their houses in the homestead, and that a non-proprietor who purchases the land on which his house stands is *ipso facto* exempt from the cess. I cannot help thinking that this is a mistaken view; and that the real object of the cess is to throw a share of the burden of the hospitality, which is exercised in the name of the village as a whole, upon those residents who would otherwise escape all share in its incidence. In the first place, in villages inhabited wholly by cultivators, such, for instance, as *garhìs* or *máirás*, and even in the Skinner villages where every levy is taken that can on any pretence be squeezed from the people, the hearth tax is appropriated by the cultivators to the common expenses, although they have, of course, no property whatever in the village site. Again, if a family divides into two households with separate hearths, each household will pay the same cess that the joint family paid before, though the land they occupy is the same. Again, the *Chúhrá*, *Nái* and *Dúm* are exempt, simply because they are utterly impure, and no one would accept hospitality at their hands; and the washermen are exempt for a similar reason so long as they exercise their filthy calling. *Dákauts* are exempt because they are

so unlucky that even the grasping Bráhman does not accept an offering from their hands; not because they are poor, for they are generally quite the contrary. Again, why should the non-proprietary cultivator be exempt if the cess is a ground rent. On my view of the matter his exemption is reasonable; for the hearth tax never nearly covers the expenses, and the balance is distributed with the revenue, so that he pays his share as a cultivator."

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Common income of the village: village dues.

Besides the hearth tax, there are the grazing dues, *chugái* or *charái*. This is chiefly levied in the Nardak, where pasture is extensive, and non-proprietors often keep numerous flocks and herds. The rate is usually 8 annas per buffalo, 4 annas per ox or cow, 2 annas per calf, and Rs. 3 to 5 per hundred sheep or goats. The cattle of proprietors and all plough cattle are always exempt; and, as a rule, the cattle of all cultivators graze free. This cess, when realized in villages with limited pasture, is generally taken only in years when the village expenses are very largely in excess of the common income. It is a payment in consideration of the right of grazing on the common lands, and must be carefully distinguished from the distribution of revenue upon cattle, which is generally adopted in the Nardak villages when a drought has rendered the number of cattle possessed by each a better test of ability to bear the burden of the revenue than is afforded by the areas of fields which have produced nothing. In this latter case the cattle of owners are of course included. Besides these dues there is an annual levy of Rs. 2 upon every oil press, which is occasionally taken; and a small periodical payment is made, chiefly in the Nardak, by every non-cultivator who cuts firewood or *pàlà* from the common jungles, and is usually quoted at Re. 1 a year on each axe or bill-hook (*gandàssà*).

The distribution the revenue.

When the half-yearly instalment of revenue becomes due, the *malbà* account is first audited. The list by which the hearth tax is to be levied is then made out, and this is generally so adjusted as to leave a fair share of the general expenses to be paid by the cultivators, who are exempt from the tax. The balance so left, after deducting the grazing dues, is added to the Government revenue (*hàlà*, probably so called because originally distributed over ploughs or *hals*) and cesses; and a distribution (*bàchh*) of the whole is then made over the cultivated land. This distribution is *almost always* by an all-round rate upon areas. The distribution of land according to quality made this method of distribution fair enough in the first instance; but greater or less inequalities have grown up in most villages, and especially some of our new systems lead to very peculiar results in connection with it. Still the practice has been adhered to with extraordinary unanimity, and payment by shares or by ploughs or by proportional rates on soils, are the exceptions. In some few villages the distribution is made on the area actually under the plough in each year; but, as a rule, land entered as cultivated at Settlement is paid for, whether cultivated or not (*khàrì parì kà dìm denà*). The newly-broken up land, if chiefly in the hands of tenants, is included; and sometimes the original Settlement rate per acre is charged on this, with the result of reducing the rate upon the old cultivation. When the land has been broken up by owners, it is often not included at all, or not till a considerable area has been broken up, when all land so cultivated up to date is included once for all.

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The distribution of the revenue.

The headmen then collect (*ugáhná*) the revenue. Tenants of any standing almost always pay direct; new tenants often pay through the owners even when they pay nothing in excess of the sum entered as due on their land in the distribution list or *fard dal bách*. Many of the well-to-do pay direct from their private purse; and already the number that do so is considerable, while it is becoming every day more and more the custom for every one who has the ready money to pay in this manner. Those who have not sufficient cash, or who prefer not to pay direct, pay by *ínch*; that is they give in the name of their banker (*sáh* or *sáhúkàr*). The *patwárí* then gives each banker a note of the sum due by each of his clients, and the banker pays in the total amount and debits the items in their respective accounts. The *malbá* account is settled, the revenue is paid, the headmen take their allowances, and the *ugáhí* or collection is at an end.

Agricultural partnerships or *lánás*.

The whole agriculture of the district is conducted by means of *lánás*, which are associations of households or individuals, each contributing oxen, or labour, or both, and the whole *láná* working jointly, and cultivating certain lands of which some of the members of the association have the disposal, whether as owners or tenants. The agreements for them are made for the agricultural year, dating from the day after *Dusahra*; the 11th of the second half of Jeth. In the Nardak and elsewhere, where the depth of water necessitates a large staff of bullocks the *láná* often includes seven or eight ploughs of two oxen each; in other places, more often three or four. The sharers are called *sájjí* (*sájjá*, a share); if a man contributes a full plough he is called *ek hal ká sájjí*; if a half plough *káchwá ká sájjí*, from *káchwá*, the space in the yoke occupied by the neck of one bullock; if only his personal labour *jí ká sájjí*, or sharer of his person. This last class never contribute land, and are generally *Chamárs*; while a man who contributes land is seldom or never a *jí ká sájjí*. If a woman, not of the family of any of the landed sharers, is admitted, she is called *khurpi ká sájjí*, or a sharer of a hoe, and takes half the share of a *jí ká sájjí*.

The distribution of the proceeds and the payment of revenue is conducted in two different methods. In all cases the whole of the produce is thrown together, without regard to the yield of individual fields. Throughout the Nardak, and generally among Rájpúts, the whole number of heads (*áng*) in the *láná* are counted. The whole of the fodder and the price of all iron used in the cultivation are divided over the oxen equally. The grain is collected, the seed-grain repaid to the *baniá* with interest, and the dues of the *chamárs* and the religious offerings are deducted. One-fourth of the remainder is then separated as *hákimí hissah*, or the share of the ruler; and this is divided among the people who contributed the land in proportion to the area contributed by each, and these people pay each the revenue due on his own land. The remainder is then divided upon the heads of men and oxen; an ox generally taking twice the share of a man among the Rájpúts, because the owners provide most of the cattle, while many of the men are non-proprietors; and also in the villages where irrigation is extensive, because the cattle there have such hard work. For this latter reason, an ox sometimes takes twice as much as a man

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in the spring, and only as much in the autumn harvest, when there is no irrigation. In other villages oxen and men share equally. In all cases the costs of cultivation, except the iron, are divided on these same shares.

Agricultural partnerships or *lánds.*

In the second method of distribution the accounts of the *lánd*, which is also called *ráthá*, are kept by ploughs, each sharer contributing a certain number of half ploughs. To make up the number of men required for his oxen, a sharer will often take a *jì kà sàjjì* into partnership; but in this case the latter claims from the sharer only, and not from the *lánd* as a whole, in which he is only recognized as a man attached to one of the ploughs. The whole costs and proceeds of cultivation, and the revenue due on the whole of the land, are divided equally over the ploughs without any regard to the area of land contributed by each plough. This sort of *lánd* is also called *basìrà*. The *jí ká sájjí* in this case takes from the man who engaged him one-fourth, or if there are already two able-bodied men on the plough, one-fifth of the produce allotted to one plough, and pays the same proportion of the revenue, the division being by heads, and men and oxen sharing equally. He receives no share of the fodder, and pays no share of the cost of the iron or seed. Under this system the *jì kà sàjjì* is entitled to an advance of some Rs. 20 to 25 free of interest, and further advances at discretion at reasonable rates from his employer. His account is seldom cleared off, and till it is cleared off he does household work also; so that he becomes attached to his master as a sort of serf, and if a second employer takes him, he is bound to first settle his account with the old employer. The debt is looked upon by the people as a "body debt" (*sarír ka qarzah*), and they hold that they are entitled to compel the man to work till he has cleared it off, and grumble much at our law refusing to endorse this view. In all cases the *jí ká sájjí* is expected to do much of the hardest part of the labour, such as ploughing; and they are much more used by Gújars and Rájpúts than by Játs or Rors. Among the latter the women of the family are often counted and get shares, which the *jí ká sájjí's* wife does not.

The sugar-cane *lánd.*

There is another *lánd* made for the express purpose of cutting and pressing sugar-cane. The cane is grown in the ordinary manner; but after *Diwálí* when the cutting time has come, the growers combine and form a *kolhú ká lánd*, or sugar mill association, which will consist of 10 or 12 ploughs, and is worked as follows. Each sharer (whether an individual or an ordinary *lánd*) contributes oxen and grown men in equal numbers strictly in proportion to the area it has under cane, and women and children as near as may be at the same rate; and the account is kept by yokes of oxen (*jot*). The sharers cast lots to determine the rotation (*bàrì*, *osrá*) in which the work shall be done, one lot for each yoke. Thus, if *A*, *B*, *C*, and *D* be the lots, *A* and *D* may belong to one man who contributes two yokes. The press must be started on Sunday evening; so on Sunday morning the whole of the labourers begin to cut *A's* cane. As the first turn of the season is always a double one, they cut it on Sunday and Monday. On Tuesday they cut *B's* cane, on Wednesday *C's*, and so on. As each man's cane is finished, he falls out of the rota-

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The sugar-cane *lánd.*

tion. The pressing begins on Sunday evening, and all the bullocks work in rotation night and day till the work is done, each yoke going on till the vessel into which the juice first runs (*kúndí*) is full, and then being relieved. They begin to press the cane cut during the day in the evening of the same day, and it generally occupies the press till the evening of the next day. If it takes a little more or less time, the excess or defect is marked by a pat of dung on a rough sundial made by a peg stuck into the ground, and is allowed for when the same man's turn comes round again. Each man takes the *gur* made from his own cane, and pays the daily expenses of his days. The joint expenses, such as hire of evaporating pan, making of press, &c., are distributed in proportion to the number of days the cane of each has taken to press. This is the ordinary system. But the people find that the crowd collected to cut the cane eat and spoil so much that a new system which has come from Rohtak is fast gaining ground. In this each sharer cuts his own cane. He starts his bullocks and presses his cane till one or two *kúndís* of juice, as may have been previously agreed upon, have been expressed. He then makes way for another man with his cane and bullocks, and so on. When all his cane is crushed, he takes away his bullocks and falls out of the rota. Every morning the *gur* which has been made during the past 24 hours, and the current expenses, are divided in proportion to the number of *kúndís* contributed by each.

Dangwárá.

Dangwárá is the name of a system by which two or more owners club their cattle together, either for the year or for a special job. The united cattle work for each in proportion to the number of oxen contributed; and the partners have no further claims upon one another, each keeping his land and its produce and revenue distinct.

Agricultural labourers.

Hired labour is made but little use of by the villagers, except at harvest time. The non-cultivating Saiyad and the like, however, often cultivate by servants. A labourer hired by the month or year is called *kamerá.* He gets 18 to 20 maunds of grain a year and his mid-day meal, or Rs. 3 a month, or his board and 8 annas a month, and often has some old clothes given him. A lad will get Rs. 2 a month, and an old man who watches the crops Re. 1 and food twice a day. They always get double pay in the two harvest months. Labourers hired by the day are called *mazdúrs.* They get their mid-day meal, and enough corn to give them grain worth about two-and-a-half annas. But in the press of harvest, and specially in the cities, wages often rise to 6 annas a day or more. The young men of the Nardak, when they have cut their early gram or rice, flock down to the canal and riverain tracts for employment as harvest labourers. The subject of the employment of field labour than other that of the proprietors or tenants themselves, is thus noticed in answers furnished by the Settlement Officer and inserted in the Famine Report of 1879 (page 712):—

"There is a certain very small number of agricultural labourers hired by the year on fixed pay. They belong to no particular caste, and are chiefly found in the towns, and in villages owned by Saiyads and others who will not do manual labour. There are very few of them in other villages. They get 9 to 10 maunds of grain a year and their morning

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Agricultural labourers.

meal; or all their food and 8 annas a month; or two meals a day, and clothing and Re. 1 a month; or Rs. 3 a month, one meal a day and some old clothing and a pair of boots every half-year; or Rs. 4 a month with or without one meal a day. They always get double pay in the two harvest months. They are of course very poor, more so than the poorest agriculturist. Occasional labour is resorted to at certain seasons, chiefly at harvest time, when rice is being bedded out, and when sugar-cane is being cut and crushed. The labourers usually consist of the menials of the village, and of the villagers of the high lands, who reap their yearly grain crops and then go into the low villages to help in the harvest. The wages vary from 3 to 6 or 7 seers of grain a day; and I have known 8 annas a day paid at harvest when a sudden hot wind ripened all the crops at once. This class of labourers includes the poorest of the people, and also really well-to-do agriculturists and others, who are attracted by the high wages offered."

The wages of labour prevailing at different periods are shown in Table No. XXVII, though the figures refer to the labour market of towns rather than to that of villages.

Mr. Ibbetson thus describes the village *baniá* of Karnál:—

The village money lender; village banking.

"The village banker or *Sáhúkár* is a much, and in my opinion generally a very wrongfully, abused person. Rapacious Jews of the worst type, to whom every sort of chicanery and rascality is the chief joy of life, and in whose hands the illiterate villager is as helpless as a child, do exist, especially in the cities. But they are well-known, and only had recourse to in the last resort. It is unnecessary for me to repeat what has been so often and so well said about the absolute necessity for an agency which shall furnish capital to a class who are, as a rule, without it, and shall receive the produce of the fields in exchange for the hard cash in which alone Government will receive its revenue. But this is not the only function they fulfil. The well-to-do villager keeps his whole accounts with the money-lender; he seldom stores any amount of grain in his house, as he has no means of protecting it, but makes over to his banker the produce of the harvest, and draws upon him for his daily wants. The account is precisely similar to that kept by an English farmer with his banker, but with this cardinal distinction,—that the English farmer starts with a deposit, and has, as a rule, a balance to his credit, while the Indian farmer has, as a rule, nothing to deposit at first, and would not deposit it if he had. He starts with a credit, and, however well-to-do, always owes something to his banker. If he has any surplus wealth, he, as a rule, conceals it, or sinks it in jewels for his wife till the time comes for a wedding in his family, when he will spend the whole of it, and an advance from his banker besides. He not unfrequently, unless really indebted, sells his produce to travelling traders at a higher rate than he could get for it in the village; and he very commonly lends money himself in a small way to his friends and fellow-villagers, and is generally exceedingly long-suffering in his treatment of them.

"Nor is the banker himself generally so exacting as he is often said to be. He charges monthly interest at the rate of a *paisa* in the rupee—18¾ per cent. per annum—when his client is a substantial man, and from 25 per cent. upwards when the credit of the latter is doubtful. He credits grain received at a seer per rupee more, and debits it at as much less than the market rate. But his chances of loss are often great, the periods of credit are generally long, and at the time of settlement allowances are made and a compromise effected more generally than would be thought possible. His loans are often secured by a mortgage (*gehná, girvi*); but the mortgage is seldom recorded, for in

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The village money-lender; village banking.

most villages it is thought disgraceful to have one's land shown as mortgaged in the Government papers; and so long as the client is reputed honest, the banker does not press for an entry, though it would greatly enhance his security. The mortgagor, too, almost always continues to cultivate the land, and generally at a fairly moderate rent. It is the city *baniá* in particular that is often as unscrupulous and rapacious as he can be painted. In time of drought and famine the *baniá* is the villager's mainstay; without him he would simply starve. In fact the function of a Baniá in a village is very like that of the air-chamber in a fire engine. He receives the produce of the village, the supply of which is fitful and intermittent, stores it up, and emits it in a steady and effective stream. And if some power is lost in the process, it is only the cost at which all machinery is worked; for force cannot be transmuted from one form into another and more serviceable one without some part of it being lost on the way."

The village accountant.

The *patwárí* is in these parts emphatically a Government servant, the *malbabardár*, who corresponds to the Panjáb *daharwáí*, usually keeping the village accounts. Among the Nardak Rájpúts especially, the *patwárí* often knows little of the private arrangements of the community. But in the remainder of the tract the *patwárí* often has the whole matter of the distribution and collection of Government revenue in his own hands. Still it is wonderful how many of the *patwáris* possess the entire confidence of the villagers. Mr. Ibbetson writes:—

"No doubt a good deal goes on which we should be unable to approve of. I believe that only exceptionally scrupulous *patwáris* ever pay their bill with the village *baniá*, the great majority living free at the expense of the village. But I do not think that a *patwárí*, who does so, s necessarily corrupt or extortionate. The custom is in consonance with the habits of the people; the burden is so widely distributed as to be hardly perceptible; and as the whole contribute equally, there is no temptation to partiality. So long as the *patwárí* is impartial and not too luxurious in his style of living, the people are well content to secure at the price the good offices of one who has very much in his hands, and are, perhaps, not sorry to have little entries in *baniá's* account books which can be brought up against him in case of need; and the gratification is continued, as a matter of course, often, probably, without being asked for. But if he fails in these respects, there is trouble. Of course where such a state of things is discovered, it is necessary to take notice of it; but I am not sure that it is always wise to discover it. Even if it should tend to destroy his independence as between the Government and the village—which I doubt, for his appointment rests with Government—it also tends to keep him impartial as between individual villagers; and the latter quality is the more important, because so much the oftener called into play."

Village menials.

The menials or *kamíns* form a very important part of the village community; and nothing is thought to be so effective an assertion of the poverty of a village as to say that the *kamíns* have left it. They perform all the *begár*, or work not paid for by the job; and this includes the *sarkárí begár*, or services performed free for Government officials when travelling. For this they are specially paid; and when, in 1820, Lord Hastings issued a proclamation abolishing *begár*, or forced labour as it was called, the *kamíns* petitioned the Collector to revoke the obnoxious order, as, in the Collector's words, "they were deprived of "their only means of subsistence, as their services were no longer called

Village menials.

"for, and their allowance no longer paid them." This is of course, an exaggeration; and forced labour is sometimes so taken as to be a real injury to the people. But for the ordinary services which the custom of the country prescribes, the givers are fully paid by the cultivators, who and not the menials, are the people to be considered. The payment to menials is made either by a share of the produce, or by a *kalak* or fixed allowance upon the plough or Persian wheel. The *begàr* is done by the various houses in accordance with a *thìkar* or rotation list kept by the *thìkar* Baniá (see page 139 *infra*).

Chamàrs or tanners or cobblers. They are in these parts by far the most important class of menials; for, besides their function as artizans, they perform a very considerable part of the agricultural labour. On the 11th of the second half of Jeth, the day after Dasahra, when the arrangements for the ensuing agricultural year are always made, the *lànàs* and house-holds agree how many *Chamàrs* each wants, and informs the *thìkar* Baniá (page 139 *infra*), who distributes the various houses of *Chamàrs* among them by lot. Each *lànà* then agrees with its *Chamàrs* whether they will be *kamàì ke*, or *begàr ke*, or *sarkàri begàr ke Chamàrs*. The *kamàì* or *lànà kà Chamàr* (*kamànà*—to labour, to work at) receives either a twentieth or a twenty-oneth part of the *grain* produced on the *lànà*, having no share in any other produce; and for this he provides an able-bodied man to be always at work in the fields, and makes and mends all the boots and leather articles needed by the *lànà*. The *begàr ka Chamàr* receives a fortieth or forty-oneth part of the grain; and for this he provides a man to work in the fields whenever special work is in hand, such as weeding, harvest, &c. He also gives two pairs of boots a year for the ploughman, and two for the woman, who bringst he bread into the fields; and one ox-whip (*narkà*), and a leather rope *sàntà* to fix the yoke (*júà*) to the plough, in the half-year, and does all the necessary mending. The *sarkàrì begàr ka Chamàr* takes an eightieth or eighty-oneth part of the grain; and gives a *narkà* and *sàntà* half-yearly, mends boots, and does Government *begàr*. Besides the above dues, the *Chamàrs* always have some grain left them on the threshing floor, called *chhor*, often a considerable quantity. The *Chamàrs* are the coolies of the tract. They cut grass, carry wood, put up tents, carry bundles, act as watchmen and the like for officials; and this work is shared by *all* the *Chamàrs* in the village. They also plaster the houses with mud when needed. They take the skins of all the animals which die in the village, except those which die on Saturday or Sunday, or the first which dies of cattle plague. They generally give one pair of boots per ox, and two pairs per buffalo skin so taken, to the owner. They and the *Chùhras* take the flesh also between them, the most usual division being that the *Chamàrs* take that of cloven-footed animals, and the *Chúhras* that of whole-footed animals and abortions.

The *Bàrhì* or carpenter receives a fixed allowance; generally 40 to 50 seers per Persian wheel, or half as much per plough; and a sheaf (*bhàr*) and small bundle (*gaira*) of corn; the *bhàr* yielding perhaps 10 seers of grain and the *gaira* half as much. For this he repairs all agricultural implements and house-hold furniture, and

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Village menials.

makes all without payment except the cart, the Persian wheel, and the sugar-press. The wood is found for him.

The *Lohàr* or blacksmith receives the same as the *Bàrhì*. He makes and mends all iron implements, the iron being found him.

The *Kumhàr* or potter gets the same as the *Bàrhì* when he has to provide earthen vessels for Persian wheels. Otherwise he gets 12 to 20 seers per plough. He provides all the earthen vessels needed by the people or by travellers; and he keeps donkeys and carries grain on them from the threshing floor to the village, and generally brings all grain to the village that is bought elsewhere for seed or food (*bìj, khàj*) or for weddings or feasts. But he will not carry grain away from the village without payment.

The *Chùhra, Bhangì*, or sweeper gets half as much as the *Bàrhì* or often less, and a share of the flesh of dead animals as already noted. He sweeps the houses and village, collects the dung, pats it into cakes and stacks it, works up the manure, helps with the cattle and takes them from village to village. News of a death sent to friends is invariably carried by him. In villages where the women are secluded, he gets a daily cake of bread from each house in addition, or his allowance is the same as that of the *Bàrhì*.

The *Jhìnwar, Kahàr*, or bearer gets about the same as the *Chúhra* and receives a daily sheaf of corn at harvest. He brings water to the reapers, and at weddings, and when plastering is being done; and makes all the baskets needed, and the *borià* or matting and *bìjnà* or fans, generally of date-palm leaves. Where the women are secluded, he also brings water to the house and receives a double allowance. He is the fisherman of the country.

The *Nàì* or barber receives a small allowance, and shaves and shampooes, makes tobacco, and attends upon guests. He also is the person to go on messages (*gamìna*), and enjoys large perquisites at betrothals and weddings.

The *Dhobì* or washerman receives as much as the *Bàrhi* in villages where the women do not wash the clothes; but only a small allowance, if any, in others, where he is often not found at all.

The *Teli* or oilman, *Gadríyà* or wool-felter, the *Julàhà* or weaver, the *Chímpi alias Lìlgar* or dyer, the *Pùmbà, Dhunyà*, or cotton-scutcher, and the *Sonàr* or goldsmith, get no fixed allowance, but are paid by the job; usually either by retaining some portion of the material given them to work up, or by receiving a weight of grain equal to that of the materials.

The *Dhànak* is an inferior sort of *Chúhra*, who will eat a *Chùhra's* leavings (*jhútà*,) while the *Chùhra* will not eat his. They often take the place of *Chùhras*, and frequently weave cloth.

The *Dùm* or *Míràsí* are the musicians of all, and the bards of the tribes other than Rájpúts and Bráhmans, whose Bháts and Jágás seldom reside in the district. The *Dùm* is the very lowest of castes. There are generally a few *Jogís*—a low caste of devotee who take the offerings to Shiv and to Gúgá Pír; and a few Muhammadan *faqírs* who take the offerings to the Muhammadan saints.

Inhabitants of the village generally.

The remaining inhabitants of the village are chiefly Bráhmans and Baniás. The former are the family priests of the people, and even among Musalmáns play an important part in weddings. They live by

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the offerings of their clients. The Baniás seldom follow any other calling than that of trade, though a few families cultivate. On *phág*, the day after Holi, they give a ball of *gur*, and on the day of the great *Díwálí* a little parched rice or some sweets to the proprietors, in recognition of the subordinate position which they occupy in the village. And on the latter day the *kamíns* bring small offerings of articles belonging to the handicraft of each.

Inhabitants of the village generally.

All inhabitants of the village have a right to graze a reasonable number of cattle, their own property, on payment of the recognized dues, to collect dry wood for burning, to cut such bushes or grass for thatching or ropes as they need for use in their houses and cattle yards, and to dig mud for bricks, &c., from the village tank. But a small cess for every axe or bill-hook is often taken from non-cultivators where jungle is plentiful. Cultivators have ordinarily a right to cut wood needed for agricultural implements and *pálá* and grass from the common lands, except in villages where they are very limited in extent and insufficient for the needs of the owners. The manure of the cultivators is used by them in their own fields; but they cannot sell it out of the village. That of the non-cultivators is the joint property of the village; or, if the homestead is divided by wards, of the owners of the ward in which they live. It is kept in great joint stock heaps, and divided by the owners according to ploughs. The oilmen often pay Re. 1 or Rs. 2 on every press to the village.

Non-proprietary inhabitants are the owners of the materials of houses which they have built; but not, unless by purchase from the village, of the land on which they stand. But they cannot ordinarily be ejected from land they have occupied in or about the homestead, whether for houses, cattle-yards, fuel heaps, or the like, so long as they reside in the village and pay the customary dues, unless the land occupied by them is needed for extension of the homestead proper; in which case they would be ejected, and have similar ground allotted them a little further off.

Watch and ward. *Thíkar.*

The pay of the village watchmen is fixed by Government and paid by the community equally upon hearths. But the further duties of watch and ward are performed as follows by the whole adult male inhabitants of the village. There is in every village a *thíkar* Baniá. *Thíkar* literally means a shard; and, as lots are commonly cast with shards, is now used for any rota or roll by which duties are performed in rotation. The *thíkar* Baniá keeps a roll of all adult males except himself and the headmen and their next heirs, who are exempt; and these males have to keep watch in the village at night in rotation, the *thíkar* Baniá warning each as his turn comes round. In large villages there will be several men on duty at once. The roll is revised generally every 12 years to include men who have grown up in the meantime. This duty is called *thíkar* par excellence, though the *thíkar* Baniá keeps other rolls, such as the allotment list of Chamàrs and the like.

Poverty or wealth of the proprietors.

Table No. XXXII gives statistics of sales and mortgages of land; Tables Nos. XXXIII and XXXIIIA show the operations of the Registration Department; and Table No. XXXIX the extent of civil litigation. But the statistics of transfers of land are exceedingly imperfect; the prices quoted are very generally fictitious; and any figures which we possess afford but little real indication of the econo-

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Poverty or wealth of the proprietors.

mical position of the landholders of the district. The system of village banking has already been described (pages 135, 136). The following remarks upon the change in the cost of production and the distribution of produce since the Regular Settlement, which are taken from Mr. Ibbetson's report, throw some light upon the present condition of the people of the district:—

"So far as rise in prices affects the cost of living to the cultivator, the proportional increase in the cost of production is, of course, no greater than the increase in the value of produce, and the cultivators reap the full benefit of the enhanced value of the surplus. But there is little doubt that, in all other respects, the cost of production has increased far more rapidly than has the value of produce. The price of cattle has probably doubled since 1840; at any rate that of the more valuable cattle which are needed for working the deep wells and stiff soil of the Bángar and Nardak, and which are for the most part not bred at home. And, if the people are to be believed, the cost of all implements of agriculture has increased almost in like proportion. The demand for fuel and the extension of cultivation have rendered the materials dearer, the enhanced cost of living has raised the price of labour, and the tendency which has so strongly marked our rule of late years to substitute contract for status and competition for custom has in some not inconsiderable measure relaxed the customary obligations which bind the village labourers and artificers to the communities among whom they dwell. It must be remembered, too, that the extension of cultivation itself increases the cost of cultivation so soon as it encroaches upon the pasturage of the village; for it then necessitates the substitution of stall-feeding for grazing, and the devoting a considerable portion of the cultivated area to fodder crops, which shall support the oxen needed to work the whole. This stage has already been reached in a very large number of the Khádar villages; while in the canal tract *reh* has too often ruined every acre of grazing in the village. Above all, in the canal tract, the price of water—that very important element in the cost of Indian agriculture—has increased since 1842 by 150 per cent. The increase of population which has taken place since Settlement is very much larger than the corresponding increase in cultivated area. The general results are as shown in the margin. The Census figures of 1852 for the Nardak represented only a portion of the population ordinarily resident, as the drought had driven most of the young men away with the cattle, or in search of labour; and it is possible that the figures in general were not quite correct. But there can be no doubt as to the broad fact that population has increased far faster than cultivation has extended; and the sub-division of fields and holdings, and the fact that the two-ox has been substituted for the four-ox plough as the unit of account, tell the same tale.

Assessment circle.	Percentage of increase to date on	
	Cultivated area of 1842-47.	Population of 1852.
Nardak ..	12	79
Karnal Khadar .	4	30
,, Bangar ..	6	88
Panipat Khadar	9	41
,, Bangar ..	1	15

"The tendency of over-population to produce over-cropping has already been alluded to. But even before this stage is reached, the revenue-paying capacity of the people is affected. The first effect of increase of population is of course to extend cultivation; its second effect is at once to render possible, and to compel the adoption of higher and more careful cultivation; and so far the increase is beneficial, though the minute sub-division of holdings always tends to destroy the elasticity of the revenue-payer

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Poverty or wealth of the proprietors.

by reducing the margin which can be made available in a time of difficulty, and by rendering a failure, when it does occur, more complete. But in the India of the present day, at any rate, and in highly-developed tracts like our Khádar and Bángar, a point is soon reached when the extension and improvement of agriculture fail to keep pace with the increase in the number of mouths to be filled; and directly this point is reached, the surplus left over from the gross produce after defraying the expense of supporting the cultivator in the style to which he and his followers are accustomed is encroached upon; and it is from this surplus that the revenue is paid. This question of over-population seems to me of the most pressing nature as regards tracts such as those under discussion. The fact that many of the Bángar cultivators have, as injury from the canal, reduced the culturable área of their villages, taken up land in Jínd, by the cultivation of which they supplement the revenue derived from their ancestral holdings, is one of great promise; and I am in hopes that, as soon as the new canal introduces irrigation into the Nardak, an outlet will be afforded for the surplus population of the lower lands; unless, indeed it be closed by the antipathy between the Játand the Rájpút. But the disinclination of the Indian peasant to leave his home permanently and take up his abode in a new neighbourhood is well known; and I fear that difficulty will be felt in the near future. It is in fact, already felt in not a few of the Ját villages; but the tract as a whole is not over-populated as yet, and the question so far arises only in the case of individual villages, though these are too often the finest and best.

"A very considerable proportion of the cultivation is held by tenants who at present pay no rent to the owners; and though the tenants are, under existing circumstances, as much revenue-payers as the owners, yet they are, as a rule, much poorer, and hold much smaller holdings than the latter; and it too often happens that in a famine year many of the tenants are unable to pay, and the revenue falls upon the owners' shoulders. This is in fact usually the case in the Nardak, where true rent is commonly taken in the shape of a share of the produce, and where, therefore, the owner gets nothing from the tenant just when he finds it hardest to meet the Government demand on his own holding."

SECTION F.—LEADING FAMILIES AND CHAUDHRIS.

Principal families.

The principal families in the Karnál district are—the Mandals of Karnál, the Kunjpura family, the family of the Bháís of Kaithal, now represented by the Bháís of Arnauli and Sadhowal, the Sardárs of Sikri, Dhanaura, Labkari, and Shamgarh (the present head of which last family is Sardár Sham Singh), the Pánípat families, and the Skinner family. The Kaithal, Ládwá, Thánesar and Kunjpura families have already been described in Chapter II, (Section B).

The Mandal family.

The Mandals, or as they are sometimes called Marals, are said to be a family of Múla Játs or Játs who have been converted to Islám. They generally call themselves Pathán, and they affect the Pathán affix of Khán to their names. They also sometimes assert that they are of Rájpút descent, and the poorer Musalmán Rájpúts occasionally marry their daughters to them; but under no circumstances would a Rájpút marry a Mandal woman, and the latter marry only within the family, which being very limited in numbers, many of the girls remain unmarried. There is no doubt that they are of Ját origin. They come originally from Samáná in Patiálá, where the word Mandal seems

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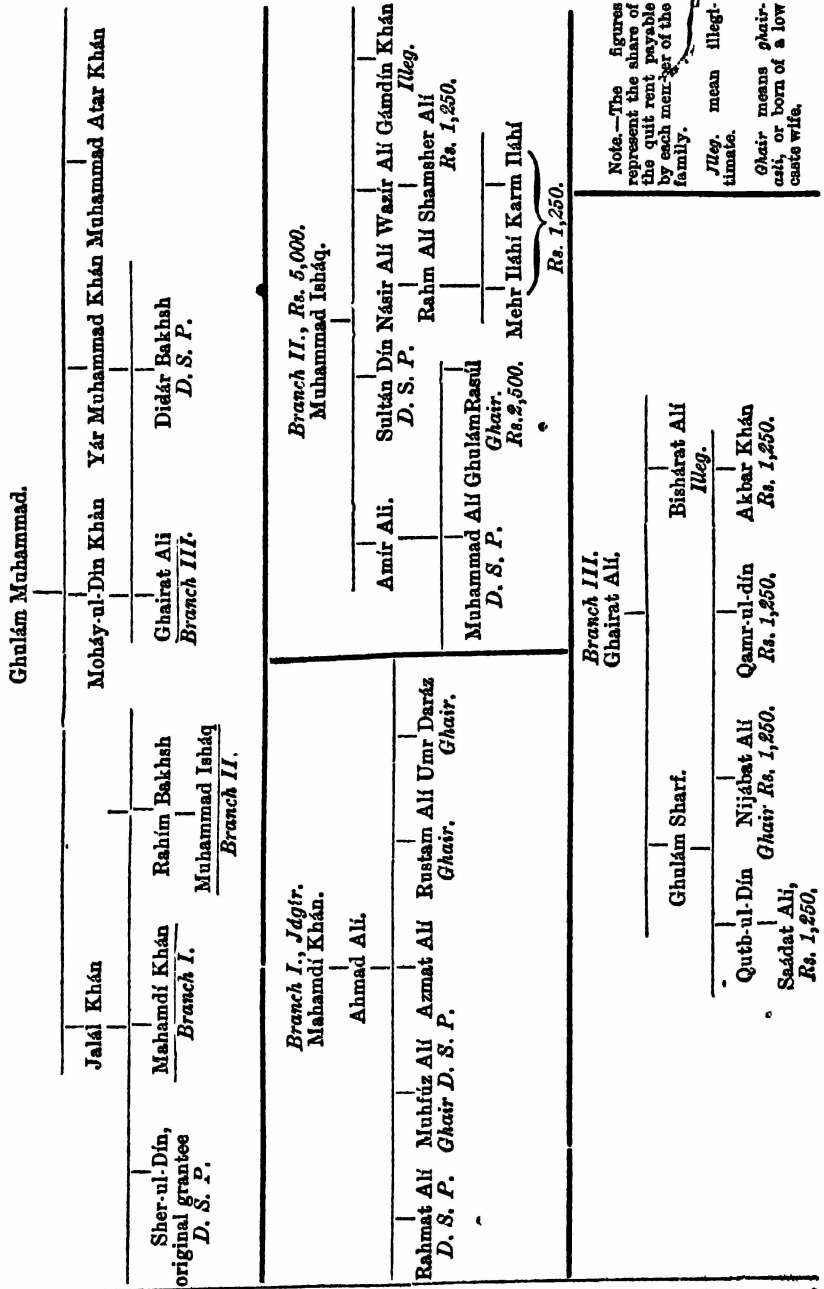
The Mandal family.

to have some local meaning.* The family tree is given below so far as regards the Karnál family, daughters not being shown in it



* *Cf.* : *mandela*, a platform on which guns are mounted; and *mandal*, the sacred space traced by the Bráhmans at marriages, which is in the shape of a fort, with four bastions. The word *Mandal* appears to mean a village headman in Bengal. Another derivation is from *maral* with which this word is sometimes alternated. There is a tradition that an ancestor of the family was raised from the dead by a Saiyad, whence the origin of the name.

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The Mandal family

In 1780 A.D. Nawáb Majíd-ud-daula granted to Nawáb Sher-ud-dín Khán the *parganah* of Muzaffarnagar, Shoran and Chitráwal in the Muzaffarnagar district, on condition of his furnishing for Government service 200 horsemen fully equipped; and on the death of the grantee in 1789, the grant was continued on the same terms to his brother Mahamdí Khán by Daulat Ráo Sindhia. In 1806 this Mahamdí Khán, with his nephew Muhammad Isháq and his cousin Ghairat Alí, was in possession of these estates; and in accordance with the policy of Lord Cornwallis (Chapter II, page 36), they were induced to consent to an exchange of their possessions in the Doáb for an equivalent tract west of the Jamná. They accepted the proposal with reluctance; and it is said that the estimate that they submitted of the yearly rental of the Muzaffarnagar estates which they valued at Rs. 40,000 was much below the truth, the Collector of Saháranpúr estimating the real income at Rs. 65,000. The 63 villages in *parganah* Karnál, which were then assessed to Government revenue, were estimated to yield Rs. 48,000 yearly income; and in order to induce them to accept the exchange the more readily, it was arranged that they should receive so much of *parganah* Karnál as had not been already granted to others, comprising very many estates not included in the above estimate, and should relinquish the Muzaffarnagar service grant, Mahamdí Khán retaining, however, a smaller separate *jágír* in that district which had been assigned to him personally.

The transfer was effected by a grant signed by Lord Lake and dated 24th March 1806, the translation of which, made and filed with the Supreme Government records, runs as follows :—

"Be it known to the present and future *mutsadís*, *chaudhris*, *qánúngos*, *muqdms*, and cultivators of the *parganah* of Karnál in the *Sarkár* and *Súbah* of Sháhjahánábád, that the British Government has at this time for good reasons resumed, with the exception of their ancient *jágír*, the *jáidád* held by Mahamdí Khán, Ghairat Alí Khán, and Isháq Khán in the Doáb, consisting of the *maháls* of Shoran, Chitráwal and Muzaffarnagar, with certain villages thereunto belonging, from the beginning of the month of Asárh 1214F., and has in lieu thereof assigned to them the whole of the *parganah* of Karnál with its fortress and town, with the exception of the *sáyer*, *maáfi*, *jágír* villages, *yomia*, *punarth*, &c., which have been in force till the end of the *rabí* 1213F. From the beginning of the month of Asárh 1214F., therefore, the above district has been assigned by the British Government in *jágír* to the above-mentioned persons during the term of their natural lives. The *mutsadís*, *&c.*, aforesaid must consider them as the established *ámils*; and be ever ready to obey their orders, and pay the regular revenue to them. The aforesaid Mahamdí Khán, &c., must on their part exert themselves to satisfy the ryots by the justice of their rule; and must endeavour by every means to promote the welfare and prosperity of their country and its inhabitants, and act accordingly."

The Mandals accepted the grant, but begged that some provision might be made for their children; and proposed that the *parganah* should be continued to their heirs on a fixed quit rent. The Supreme Government which, as before remarked, was only too anxious to get rid of lands west of the Jamná, and wished to make what was felt on both sides to be really a compulsory exchange acceptable, then added a supplementary grant, also signed by Lord Lake, and dated 9th April 1806, the authorized translation of which runs as follows :—

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"Be it known to the present and future *mutsadís* of the *parganah* of Karnál in the *Súbah* of Sháhjahánábád that the villages of the *parganah* of Karnál to the amount of Rs. 40,000 have been granted in *jágír* to Mahamdi Khán, Ghairat Alí Khán and Isháq Khán, Mandals, for the terms of their natural lives from the beginning of the year 1214 F., with the exception of the established *maáfis*, *sáyers*, *yomias*, and *punarths*; and as the aforesaid persons have never been wanting in their duty to the British Government, His Lordship had been therefore graciously pleased, from the regard which he entertains for their good conduct, to grant the above-mentioned villages, with the exception of the established *maáfis*, &c., to the heirs (*wárisán*) of the above mentioned persons, to be holders by them after decease in *istamrár*, on condition of paying for the same an annual rent of Rs. 15,000 of the current coin"

In pursuance of these grants, the three assignees were put in possession of the *parganah* on the 15th July 1806. The fort was shortly afterwards resumed on military grounds, and Rs. 4,000 compensation paid for it. They immediately began to quarrel with each other, the chief matter of dispute being Mahamdí Khán's claim to be considered the head of the house. On the 16th July 1807 they divided the villages among themselves by a deed attested by the Resident at Dehli, according to the following estimated annual value :—

				Rs.
Mahamdi Khán	...	...	...	15,000
Ghairat Alí	...	...	...	13,000
Isháq Khán	...	...	...	12,000

the city of Karnál and one or two other estates being still held joint.

Neither of the original grants had given any detail of the villages granted; but a list of the 63 villages assessed to revenue and estimated to yield the Rs. 48,000 was on the file; and in 1816 the Principal Assistant attached all the villages not included in this list, which constituted a very large proportion of the whole *parganah*. The Resident demurred, but held that the heirs (and one of the original grantees had just died) could certainly only claim the specified villages. The matter was referred to the Supreme Government, which in its letter of 15th March 1817, declared that the records at head-quarters clearly showed that "the intention of Lord Lake, which "was confirmed by the Governor-General in Council, was that the "Mandal chiefs should hold the *parganah* of Karnál in *jágír*, and their "descendants in *istamrár* on the terms of the second grant." The voluminous correspondence which ensued on the subject gives very full particulars of the history of the grant; and the papers forwarded with Supreme Government of India letter of 15th March 1817 to the Dehli Resident, which forms a part of it, show clearly that by "descendants" was meant "descendants in perpetuity."

Minor assignments of revenue within the Mandal holding.

In 1842 it was found that the Mandals were enjoying the quit rent of the two villages of Goli and Waisri, which were assigned at a fixed demand to a *Bairágí* monastery in the former, and its branch in the latter village. Waisri was many miles from *parganah* Karnál; but Government, N. W. P., in its No. 1333 of 29th July 1852, directed that they should continue the enjoyment. In 1852 a question was raised as to who should enjoy the revenue assessed upon the subordinate revenue-free tenures which had been expressly excluded from the

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grant, in the event of their resumption. The Government N. W. P., in its No. 263 of 26th June 1852, ruled that though the Mandals were not entitled as of right to such revenue, which properly belonged to Government, yet the revenue assessed upon resumed revenue-free plots of less than 50 *bígahs* might be relinquished in favour of the Mandals; that entire villages, when resumed, should invariably lapse to Government; and that intermediate tenures should, in the event of resumption, be especially reported for orders in each case. Half the villages of Bahlolpur and Dingar Mazrah have since been resumed, and have reverted to Government; while a resumed holding of more than 50 *bígahs* was reported, and the assessed revenue, which amounted to Rs. 14 only, was, under the orders of Government, made over to the Mandals.

Minor assignments of revenue within the Mandal holding.

In the mutiny Nawáb Ahmad Alí Khán did admirable service, and the Government of India, in its No. 1341 of 24th March 1858, to the address of Chief Commissioner, Panjáb, remitted the quit rent of Rs. 5,000 payable by him in favour of "him and the heirs male of his body lawfully begotten in perpetuity," thus converting his *istamrári* tenure into a *jágír*. But the actual words of the grant would seem to be to "him and his male issue from generation to generation," and it is not clear that there was any limitation as to legitimacy. At any rate the two brothers of the present Nawáb Azmat Ali have been declared to be lawfully begotten.

Conversion of part of the *Istamrár* into *jágír*.

In 1860 the Government of India affirmed the advisability of instituting primogeniture in tenures of this nature; the Panjáb Government inquired the wishes of Nawáb Ahmad Ali (see Government circular No. 2 of 25th May 1860); and it has been held by the district court in Azmat Ali's case of 1880 that Ahmad Ali executed an agreement to that effect, which had no binding value.

Primogeniture among the Mandals.

No sooner had the Mandal family settled in their new home than they began to quarrel among themselves, and their descendants followed their example with ardour. The family was too new and too limited, and their new style of too recent origin, for any custom worthy of the name to have grown up; and each was anxious to make for all the rules which suited his particular predilections or interests. By 1845 these disputes had risen to such a pitch of acerbity that they reached the ears of Government. For the next 10 years the Collector, the Commissioner, and even the Lieutenant-Governor himself, vainly endeavoured to induce them to come to some understanding, and to agree to some set of rules which should regulate the future interests of individual members of the family. In 1850 a proposal was before the Supreme Government for legislation which should make such family arrangements binding; and the paper to be drawn up was at first intended to be brought under the proposed law. Later on, nothing further was contemplated than to obtain an agreement to which the courts would probably attach more or less weight; and which would, at any rate, be acted upon privately.

Record of Mandal custom.

In 1848 arbitration was resorted to; in 1850 a code was drawn up; but in neither case was the consent of all the Mandals secured.

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Record of Mandal custom.

In the minute laying down lines for the revision of assessment of 1852, the Lieutenant-Governor urged further efforts to induce them to agree upon a code of rules, in failure of which "they must be left to fight their own battles, and ruin themselves." In 1852 and again in 1855, further drafts were prepared; but again objections more or less frivolous, were raised. In the last code only one objection was raised, and that only by one member of the family. Nevertheless, apparently wearied out by the futility of all attempts to obtain complete agreement, Government abandoned the attempt to frame any administration paper for the Mandals. In Government No. 3826 of 23rd December 1855, laying down the lines on which the revision of 1856 was to be conducted, the Lieutenant-Governor wrote:—"It is not in the "power of Government to compose these differences and to establish "definite rules by any arrangement prescribed by means of its own "authority. The *istamrâri* tenure is subject in all respects to the "ordinary operation of the laws and courts; and the hereditary grant, "by the Sanad of 9th April 1806, is generally to the 'heirs' of the three "first grantees. The claims of all persons who may be entitled to any "portion in the inheritance must be received and determined by the "court. The proposal to form a binding *dastûr-ul-amal* under the "superintendence of the Government officers can therefore no longer "be persisted in, and the subject must be left to the voluntary agree-"ment of the parties themselves, or to the courts of judicial decision." This was written, of course, long before the Pensions Act of 1871; but the principle here affirmed has been followed by the Panjâb authorities in their action in the case of Azmat Ali. See Panjâb Government No. 570 of 4th May 1878. In Appendix A to Mr. Ibbetson's Settlement Report will be found a complete abstract of the various customs of the family as fixed by the arbitrators in 1848, and as agreed to or dissented from in the four codes dated 1st April 1850, 30th October 1850, December 1852, and 24th July 1855.

Mr. Ibbetson thus discusses the nature and incidents of the Mandal tenures:—

Nature and incidents of the Mandal tenure.

"There is one point I would mention. It has often been stated that the *parganah* was given to the present holders in exchange for their ancestral estates in Muzaffarnagar. This I believe to be incorrect. The *parganah* was granted *for life* to the three original grantees in exchange for a grant which had been made to Sher-ul-dîn, and after him to his brother. The grant for life was made and *accepted*, and a formal agreement to that effect, dated 12th March 1806, was signed by the grantees; and the bargain, so far as any exchange was concerned, was at an end. The Government *afterwards* added, as an act of grace, and at the request of the grantees, the second grant dated 9th April 1806; and it is under the second grant that the Mandals now hold, the first grant having expired at the death of the grantees. This second grant formed no part of the bargain or exchange, as the correspondence mentioned in the preceding sections of this report clearly shows. The point is of importance; because a mere confirmation of an old grant made by a native government, or, what is practically the same thing, a fresh grant given in exchange for such a grant, would be governed by Regulation law; and there would probably be much more hesitation felt in prescribing any rules of succession than would be felt in the case of an entirely new grant originating with the British Government. The grant of 1852, which only affected

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the quit rent, and did not otherwise alter the tenure of the *istamrári* grant, necessarily falls within the latter category; and I believe that the same may be said of the second grant of 1806.

"Whether the *istamrári* grant was or was not made in exchange for the old Mahratta grant, it is beyond question that the assignment of the tract now held by the Mandals to them was wholly the act of our Government. The village communities were, at the time of the transfer, in full possession of their rights in all the occupied villages; Government possessed only such rights in those villages as it possessed in all other villages, *viz.*, the right to receive the land revenue; and it is hardly to be supposed that Government, in making a grant on political grounds, intended to convey to the grantees any rights which, as belonging to the villagers, it was not in the power of Government to confer upon a third person. That no such possible transfer of property was intended seems clear from the Government letter quoted above, and from the orders which accompanied it, and which are printed at length in my assessment report. Mr. Secretary Thornton there speaks of leaving the subordinate proprietors to the mercy of *an assignee of Government revenue*; of the obligation lying upon Government to see that *no wrong be inflicted by the act of assignment*; and of the fact that there were *no doubtfull claims of proprietary right to investigate, the village communities remaining in all their integrity the unquestioned owners of the soil.* The Government order goes on to say that the rights of Government were assigned to the Mandals, and that "the rights of the village communities had been imperilled by the assignment." It is true that villages which had been unoccupied at the date of the grant, and which the Mandals had subsequently settled, were declared to be their property; but *khálsa* villages in the neighbouring tract which were similarly settled by Colonel Skinner were under the same policy declared his property, though he held them purely on a farm of Government revenue, and solely on the ground of his having broken up the land as in this case the Mandals had done.

"That the early assessments were meant to be assessments of land revenue only, is sufficiently clear from the constant reference to the revenue rates used in assessing Government revenue in neighbouring tracts, which were made both by the Settlement Officers in assessing, and by the superior officers in confirming the assessments. It is true that in the early correspondence the Mandals are spoken of as proprietors. But similarly, in the *khálsa* tracts, the headmen who signed the engagements for land revenue are always spoken of as proprietors and the other owners as *raiyats* in the correspondence of the time. Nor can any argument be drawn from the fact that the Mandals took full rent from the owners up to the Settlement of 1847; for the same custom existed in every village and plot of land throughout the district of which the revenue was assigned, even though the full proprietary right of the rent-payers was undoubted, and has been since recognized and acted upon without question. [The whole question is discussed in Chapter V (Section B), which should be read in this connection.]

"The fact that the Mandal claims were limited to just so much as the Government was entitled to demand was clearly recognized in the very earliest correspondence of the day. In 1810 Mr. Fraser, the assistant, who practically ruled this part of the Dehli territory for so many years, wrote of the Mandals as follows, after sketching the position of a *jágírdár* as a public officer of state and ruler under native governments:—'But though they hold the little of *jágírdárs* under a grant or tenure so called, and receive the amount of the land rent of the district, by the British Government he is only looked upon as a privileged pensioner, and possesses

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neither the name nor authority of an executive officer under it. His power is quite limited; and his exercise of right extends only to the demand of the legal and regulated right of Government to the land revenue of that portion of territory specified in his grant.' I could quote many similar passages. As a fact, the revenue demanded by Government was in those days far heavier than the rent taken by the Mandals.

"Finally, I can say with the utmost confidence that the Mandals themselves fully recognise that their claims are strictly confined to the revenue which Government would demand from the estates if they were *khálsa*, and have never entertained the idea of preferring any claim to proprietary rights; though, of course, they would be ready enough to do so if such a course were suggested to them, and there seemed to be any hope of success. They have appealed again and again against successive reductions of assessment, including those now made by me; but the argument that they are entitled to anything more than the Government revenue assessed upon the land has never, I believe, been brought forward by them."

Present condition of the Mandals.

The constant and bitter disputes which have been rife among the Mandals ever since their first Settlement in Karnál, have had the effect which might have been expected upon their position as a family. Other causes, too, have contributed to their decay. As each generation increased the number of the family, the sons, all sharing in the inheritance of the father, not only were relieved from the necessity of earning their livelihood, but also felt it incumbent upon them to keep up as far as possible the style which was traditional in the family on a reduced income which was quite insufficient for the purpose. Being almost without exception uneducated, they fell wholly into the hands of an unscrupulous band of rapacious stewards, who found their interest in introducing them to money-lenders as unscrupulous as themselves. The decadence of the family began early. In 1817 Sir Charles Metcalfe wrote:—

"They have suffered much since they were established in *Karnál*; and the period of their transfer from the Doáb was the commencement of the decline of their prosperity. Their respectability, in all external appearances, has been dwindling away before my eyes in the course of the last ten years. It may be said with justice that their decline is in some measure owing to their own mismanagement, as they received an extensive district capable of great improvement. It must, however, be admitted that something unfavourable in the change must also have operated; otherwise why did not their mismanagement ruin them in the Doáb, where I remember meeting them in 1805, equipped in a style of considerable pomp and splendour. Their present appearance is very different; and their tone to me since 1806 has invariably been that of complaint."

Of course the position of a *júgírdár* was, as pointed out by Mr. Fraser, very different under Native and British rule; and this difference would have been felt even if the Mandals had remained in the Doáb. On the point of mere income, they have little to complain of. The revenue of the *parganah* is shown on the opposite page.

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Present condition of the Mandals.

Year.	Assessed revenue.	Owner's rates.	Total revenue.	Quit rent.	Net revenue.
	Rs.	Rs.	Rs.	Rs.	Rs.
1806, estimate ...	40,000	...	40,000	15,000	25,000
1847, settlement ...	1,04,961	...	1,04,966	15,000	89,966
1852, revision ...	1,00,901	..	1,00,901	15,000	85,901
1856, do. ...	80,957	.	80,957	15,000	65.957
1876, current demand ...	80,058	...	80,058	10,000	70,058
1880, revision ...	60,670	14,595	75,265	10,000	65,265

The assessments of 1847 and 1852 were never really realised, so that the reduction effected since then is partly nominal. Even excluding from account the remission of Rs. 5,000 quit rent in 1858 on account of special services, the net revenue is still Rs. 60,265 against Rs. 25,000 estimated in 1806. And the Doáb was so comparatively fully developed in 1806, and the limitations of the Government demand which have been introduced since have been so considerable, that it is highly improbable that the revenue of their old holdings will now amount to so much as that of their present estate.

The present Mandals are by no means favourable specimens of Indian gentry. Ahmad Ali was a thorough gentleman, and a fine, intelligent, and active man. Muhammad Ali, who is just dead, retained much of the old style. But Azmat Ali, the present Nawáb—for only the head of the family has a right to the title, though the other members are commonly called so—has been unfortunate, as all his father's care was spent on his elder brother, who died before him; and Azmat Ali is uneducated and unintelligent, though thoroughly amiable and respectable. His legitimatised brothers have gained a decree for two-thirds of his estate and four *lákhs* of mesne profits; and the result must be disastrous. Of the other members of the family, too many are ignorant, dissolute, unintelligent, and wantonly extravagant to an inconceivable degree. Their estates are heavily encumbered with debt; and they neither have nor deserve the consideration or respect of their neighbours. Even now the adoption of primogeniture would go far towards saving them; but in default of this, it is to be feared that they must inevitably degenerate into a horde of petty assignees, such as we have in Pánípat.

The present state of the holding are as shown on the next page.

The revenue is that of the whole estate, inclusive of subordinate assignments, *ináms*, and the like.

The Sardárs of Shamgarh.

This family derives its origin from one Kirpál Singh resident of village Gúdhá in *parganah* Bhatandá. When a boy of 10 years of age, he came to Ládwá with his sister Máí Karmí, who was wedded to Sáhib Singh brother of Gurdat Singh, Rájá of Ládwá. Shámgarh was bestowed upon him in lieu of the services rendered to the confederacy of Sikhs in the conquest. This estate was in his direct possession when General Lake arrived at Karnál in the year A.D. 1804. He had three sons by name Jai Singh, Devá Singh and Fatteh Singh. Jai Singh died during his father's life-time. Kirpál Singh himself died after two years in 1830, leaving as his heirs Dewá Singh and Fatteh Singh, who subsequently divided the inherited estate. The present

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Present condition of the Mandals.

No. of family.	No. of holder.	Name of Mandal holder.	No. of villages.	Assessed revenue.	Owner's rates.	Total revenue.	Quit rent.	Shares in joint property.
				Rs.	Rs.	Rs.	Rs.	
I.	1	Nawáb Azmat Ali Khán ...	25	19,717	4,543	24,260	...	4
		Total of family ...	25	19,717	4,543	24,260	...	4
II.	2	Ghulám Rasúl Khán ...	13	9,867	1,520	11,387	2,500	2
	3	Mahr Iláhi Khán ...	8	5,096	1,435	6,531	1,250	1
	4	Karam Iláhi Khán ...						
	...	No. 2 half; Nos. 3 and 4 equally half ...	1	..	...	...	...	...
	5	Shamsher Ali Khán ...	10	6,971	735	7,706	1,250	1
		Total of family ...	32	21,934	3,690	25,624	5,000	4
III.	6	Saádat Ali Khán ...	7	5,671	1,906	7,577	1,250	1
	7	Qamr-ul-dín Khán ...	8	3,681	2,111	5,792	1,250	1
	8	Nijábat Ali Khán ...	7½	5,231	735	5,966	1,250	1
	9	Akbar Khán ...	7	4,436	1,610	6,046	1,250	1
		Nos. 6 to 9 equally ...	1	...	...	...	...	...
		Total of family ...	30½	19,019	6,362	25,381	5,000	4
		The three families equally on shares in column 9 ...	6	...	...	...	...	...
		Total of estate ...	93½	60,670	14,595	75,265	10,000	12

Sardár Rám Singh is the Grandson of Kirpál Singh, and is in possession of the estate. He is a well behaved man, but he has unfortunately run into debt, and does not live on good terms with the *zamíndárs*. He and his brother Kanh Singh did good service in the mutiny, and got a remission of the commutation for one year.

The Sardárs of Sikrí.

The present Sardár of Sikrí is Jawála Singh. He is the descendant of Bhág Singh a *kárdár* of the Rájá of Ládwá. He acquired possession of Sikrí with other villages making a part of the *jágír* during the period when the conquest of the Sikhs was in progress Bhág Singh died in 1814. The present Sardár is illiterate.

The Sardárs of Dhanaurá.

Sardár Ujjal Singh of Dhanaurá is descended from Saddá Singh an Officer of the Mahárája of Patiálá. He was put in possession of Dhanaurá when the Mahárája wrested it from the Nawáb of Kunjpura. Ujjal Singh has a knowledge of Persian and is of good character. His grand-father assisted the Deputy Commissioner of Thánesar during the mutiny.

The Sardárs of Labkarí.

Sardár Amar Singh of Labkarí is of the same origin as Ujjal Singh of Dhanaurá. He is also a *jágírdár* in Dhanaurá with Ujjal Singh. He did good service in the mutiny of 1857. He supplied men for Government service and also showed personal activity in rendering assistance.

The Skinner family.

When the tract was first brought under settlement, the Colonel James Skinner, who made such a name for himself as a leader of irregular horse in the earlier years of this century, and whose biography written by Mr. Fraser forms such an interesting sketch of those times, obtained in farm a considerable number of villages

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The Skinner family.

for the most part small ones, which had been more or less abandoned by the communities who owned them. He also took up the engagements for several of the larger villages, the proprietors of which had refused to accept the assessment. His management was vigorous and successful, he expended a great deal of capital in extending cultivation and introducing irrigation, his careful personal supervision ensured the success of the undertaking, and the Government officials of the time constantly bore hearty testimony to his qualities as a landlord. The people, who know him as Sikandar, speak no less admiringly of him. Their common expression with regard to him is "*wúh to bádsháh the*"—"Ah! *he* was a king." He was a strict landlord, insisted upon receiving his dues, and made his speculation exceedingly profitable; he ruled his villages with a strong hand, and stories are still current of the evil fate that befel malcontents who complained against him. But he understood and liked the people, and treated them as they would be treated, he was personally known to all of them; he managed them through their own elders and made much of the headmen; and he knew how far a little seasonable liberality goes, and by distribution of turbans, a supply of sweetmeats for all who came to him on business, by keeping his ear open to all grievances, and giving substantial ready relief in really bad cases, he won their hearts and their confidence.

Acquisition of villages in proprietary right by the Skinners.

At the regular Settlement many of the large villages which he then held agreed that his farm should be continued, and refused to engage themselves. Most of the small villages, which had come to him in a very low state were then fully occupied by the original owners, such of them as had abandoned their homes having returned on matters improving. Mr. Fraser, the first Settlement Officer, offered engagements for these villages to the resident owners; but the Commissioner quoted a ruling of the Sadr Board to the following effect:—"The reclaiming of waste land had always been considered "by natural law and right to confer the best title to property. In this "country reclaiming waste land by the permission of the Government "has always, as far as the Board is aware, been taken as the best title. "Under this view nothing can be more erroneous than the course "which, during a certain interval, appears to have been followed in "Dehli of taking away lands from those who had reclaimed, peopled, "and continued to occupy them, and giving them to those who came "forward when they found a valuable property created to their hands, "on the ground of obsolete traditions of national or ancestral "possession. When land has been deserted, left waste, and returned "to its natural state, and no one is found on the spot to maintain "a claim to property or possession, it is the undoubted right of Govern-"ment, whose duty it is to promote the perfect cultivation of its "territory, to authorise any person who is willing to occupy the waste; "and such occupant ought, both in practice and policy, to be considered "the owner." This ruling referred to lands in Hariána, which had been "settled and reclaimed by emigrants from foreign parts;" and the villages here in question had been settled and reclaimed by the original owners, with the assistance of Colonel Skinner. The settlement officer, therefore, vigorously protested against the application of the rule; but the Commissioner directed that the engagement for

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Acquisition of villages in proprietary right by the Skinners.

the revenue should be made with Colonel Skinner, leaving the owners' column in the records blank. His merits as a landlord were well-known, and in only two cases was any effort made to dispute these orders. The settlement of all these villages was made with Colonel Skinner at specially reduced rates, in consideration of the capital he had expended upon them. Colonel Skinner died in December 1841; and his eldest son, Major James Skinner, succeeded to the management of the family estate. The management would appear to have changed for the worse; for in 1853 the collector reported that every single village complained of it. A few years later Major Skinner died, and was succeeded in the control by Mr. Alexander Skinner, the present manager. The villagers attempted to have their farms cancelled on this occasion, but were unsuccessful. In the recent Settlement all the farmed villages have taken up their own engagements.

In 1851 the Government, N. W. P., issued a notification No. 4158 of 28th November (see Panjáb Revenue Circular No. 8 of 11th February 1852), directing that in all villages in which no owners had been recorded at Settlement (technically called *khánah kháli* villages) an investigation should be made, and where no very clear title was shown by other parties, the farmer with whom the settlement had been made should be declared owner and recorded as such, other claimants being referred to the civil courts. An investigation was accordingly made, and the Skinner family declared owners of all the villages held in farm by them which fell under the above description. Some few of the villages sued for proprietary rights, but failed on the ground of long adverse possession on the part of the Skinners. There is not the least doubt whatever that in almost all these villages the original proprietors were then residing and cultivating their ancestral fields; and it is almost certain that the villages were not wholly abandoned when they first came into Colonel Skinner's hands. The owners no doubt returned gradually, as they did in all the small villages of the tract; and very probably some of them were induced so to return by Colonel Skinner; and it is certain that he spent much money upon the villages, and greatly improved their condition. During the recent settlement the old owners who still reside in the villages sued for rights of occupancy; and without any exception, obtained them on the ground that they had been dispossessed of their proprietary right, and had cultivated continuously since dispossession.

The Kunjpura family.

The origin of the Kunjpura family is said to be that one Nijábat Khán of the Afghán Kákar tribe, resident of the neighbourhood of Kábul, came into this country at the latter end of the reign of the Emperor Furrúkhsír and got service; and in the reign of the Emperor Muhammad Sháh, having performed good service, was promoted to high rank, and received the title of Nawáb; and the *parganahs* of Indrí and Azímábád, together with some other villages of *iláqa* Karnál and Badauli in the late Thánesar district, were bestowed on him as *jágir*. In the year 1729 A.D. he founded a town on the banks of the Jamná on a tract of land on which the *kunj* (a description of crane) used to alight in large flocks, and thus the town is called Kunjpura, though the founder called it after his own name, and was the seat of residence of the Nawáb. At that time

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The Kunjpura family.

the income of the *jágír* is said to have been nearly 3 or 4 *lakhs* of rupees per year. Nawáb Nijábat Khán died in the year 1758 A. D. at the age of 75 years, after ruling for 35 years. Nawáb Nijábat Khán was succeeded by his son Nawáb Daler Khán, in whose time the estate began to be disturbed by the Sikh rule, and was reduced, *i. e.* several villages were taken out of his possession. In the year 1803 A.D. when the British rule commenced in this part of the country, the *jágír* of Kunjpura contained 37 villages. By the custom of the family the eldest son succeeds to the *jágír*, and the other members are entitled to maintenance allowance Nawáb Muhammad Ali Khán is the present *jágírdár* of Kunjpura of 37 villages—*jama* Rs 32,444 per year. He used to pay two annas per rupee as service commutation to Government. During the disturbances of 1857 he performed good service to the British Government and remained loyal; in consequence his payment was reduced to one anna per rupee. He has no sons. His uncle Ján Báz Khán is alive, and has a son.

Pánipat families.

The city of Pánipat, considered as a landed estate, is divided into four *tarafs* or separate estates held by the Rájpúts. the Ansárs, the Makhdúmzádáhs, and the Afgháns. These families are of sufficient importance to demand a brief notice of each. The Pánipat Ansárís or helpers of the prophet, are descended from Khwája Abdulláh Pír of Hirát, one of whose descendants, called Khwája Malk Ali, was summoned from Hirát by Sultán Ghiás-ul-dín Balban on account of his repute for learning, and settled at Panipat. They intermarry only with Ansárís, Pírzádáhs, and the Saiyads of Barsat and Sunpat. Many celebrated men have sprung from this family. Among the most celebrated are—

(1). Khwája Abdul Rizáq Bakhshi in Alamgir's reign.

(2). Khwája Muáyin-ul-daula Dileredil Khán, and his brother Zakaria Khán, sons of (1) and respectively Viceroy of Kábul and Governor of Lahore at the time of Nádir Sháh's invasion.

(3). Lutfullah Khán Sádik Shams-ul-daula Taháwar Jang, also son of (1), tutor to Azim Sháh, warder of the Fort at Dehli during Nádir Sháh's invasion, and Wazír to Bahádur Sháh, Farrúkhsír, and Muhammad Sháh.

(4). Shakrullah Sher Afghán Khán Izzat-ul-daula, also son of (1), *súbadár* of Tatta.

(5). Muhammad Ali Khán, grandson of (3), and author of the Taríkh-i-Muzaffari and the Bahrulmawwáj.

(6). Abdul Mulk, a celebrated saint described in the Aín Akbari.

The Makhdúmzádáhs or Muhájarín Arabs are descendants of Abdul Rahmán of Ghazrún, who came to India with Mahmúd of Ghaznavi, settled at Pánipat, and had a descendant, Sheikh Jalál-uldín Kahi-i-aulia Makhdúm, from whom the family is sprung. His shrine has a *nim* tree, the leaves of which are a sovereign remedy against *bhúts*; and no *bhút* ever attacks a Makhdúmzádáh. They intermarry with Ansarís and Makhdúmzádáhs only. From this family are sprung—

(1). Nawáb Muqarab Khán, Governor of Gújrát in Jahángír's time.

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Pánipat families.

(2). Shiekh Hasan, grand-father, and Sheikh Bína, father of (1), very celebrated surgeons.

The Afgháns, or Sherwáni Patháns, descended from Malk Sherwán Khán, who is said to have come to India with Mahmúd Ghaznavi. They marry only Patháns.

The Rájpúts, Túnwar family, said to be descended from Rájá Anand Pál of Dehli. The hereditary *chaudhri*-ship of *parganah* Pánipat belongs to this family.

Chaudhris.

The two hereditary *chaudhrís* of *parganahs* Karnál and Pánipat, are Abdul Karím, Chauhán of Júndla, and Riásat Ali, Túnwar of Pánipat, both Rájpúts. There was a Ját *chaudhrì* of Bala for the small group of villages belonging to Jínd, but the office dated only from recent times. Both these *chaudhrís* have now been made *zaildárs* of their respective *zails*. Under the Emperors, the Júndla *chaudhrí* always enjoyed a considerable assignment of revenue, as shown by grants now in the possession of the family. Till the transfer of the Karnál *parganah* to the Mandals, he used to receive an allowance of 7 per cent. on the revenue of the *parganah* as *nánkár*. In 1820 this was commuted for an annual payment of Rs. 300, which the Mandal assignees continued to pay till 1850, when they objected to continuing the allowance on the ground that a Regular Settlement had been made. The objection was accepted, and the payment ceased. The other hereditary families of *chaudhrís* in this district were formerly five in number.

(1). Mian Khán, Fazlú, Jhagrú and Hamir Singh, *lambardárs* of Siwan.

The above persons and their ancestors formerly had *jágírs* and *inàms* of considerable amount. An allowance of Rs. 60 per annum was in 1857 sanctioned to them for their lives. Each of them had equal shares. Of the original grantees Mian Khán is the only survivor.

(2). Jassi and Goria *lambardárs* of Keorak.

The circumstances of these two *lambardàrs* were analogous to those of the men of Siwan. An allowance of Rs. 20 each for their lives was sanctioned under Government orders dated 27th March 1857. They had also an assignment of 28 *bigahs* and 19 *biswás* of land. Both of these *lambardárs* have died.

(3). Assá Rám of Malukpur.

This man, who has since died, was bestowed a grant of Rs. 10 a year by order of Sir John Lawrence, but it was disallowed under Government order, dated 27th March 1857.

(4) Hirá Lál, Narain Singh, Belú, Sadá Rám, Asadullá Khán, Jugrám, Birú and Hákim.

These *lambardárs* used to enjoy a *nànkàr* of Rs. 200 in old times. In other respects their circumstances were similar to those of the family of Siwan, and an allowance of Rs. 80 per annum was in 1857 sanctioned to them for their lives in equal shares. The only survivors are Belú and Birú.

(5). Ghoso of Rámba and his ancestors had formerly a *maafi* of 48 *bigahs* of land, it is said since the time of Alamgír. An assignment of 24 *bigahs* and 12 *biswás* of land was released to him for life. He has since died.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—AGRICULTURE AND ARBORICULTURE.

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Agriculture and Arboriculture.

General statistics of agriculture.

Table No. XIV gives general figures for cultivation and irrigation, and for Government waste land; while the rain-fall is shown in Tables Nos. III and IIIA and III B. Table No. XVII shows statistics of Government estates. Table No. XX gives the areas under the principal staples, and Table No. XXI the average yield of each. Statistics of live-stock will be found in Table No. XXII. Further statistics are given under their various headings in the subsequent paragraphs of this chapter. Land tenures, tenants, and rent, the system of agricultural partnerships, and the employment of field labour, have already been noticed in Chapter III Section E.

The seasons. Agricultural calendar.

The total annual fall of rain and the manner in which it is distributed throughout the year are shown in Tables Nos. III, IIIA, IIIB. The agricultural or *faslí* year begins, according to the almanac, at the middle of Chet; but in practice the agricultural year begins with the day after *Dasahra*, or the 11th of the second half of Jeth, on which date agricultural partnerships are formed for the ensuing year. The year is divided into three equal seasons, the hot season or *kharsa*, including Phágan, Chet, Baisákh, and Jeth; the rains or *chaumása barkha*, including Sárh, Sáwan, Bhádon and Asauj; and the cold season or *syála*, including Kátik, Mangsir, Po and Mágh. The two annual crops are known as *sáwani* for the autumn or *kharíf* crops, and *sárhi*, for the spring or *rabí* crops. Work begins with the first rains or, where irrigation is available, even before that. Maize and cotton are sown, and a little early *jawár* sown and irrigated for the bullocks. As soon as rain falls, the land is ploughed up for the autumn crops. When they are once sown, they do not require very much attention, as most of them are not irrigated at all, and but seldom weeded. But the cultivator is hard at work, ploughing his land for the more valuable spring crops; and it is the amount of labour then expended on the ground that chiefly decides their out-turn. When it is too wet to plough, there are the banks and ditches to be looked to, cane to be tied up, and plenty of odd jobs to occupy the time. With the

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The seasons. Agricultural calendar.

cessation of the rains comes the busiest season of the year. The land has to be finally dressed and sown with the spring crops, and the autumn crops have to be harvested. During the cold weather the irrigation and weeding of the spring crops absorb most of the available labour; but if good Christmas rains (*mahâwat*) set the bullocks free from the well, land will then be ploughed for sugar-cane, tobacco, and even for the autumn staples. Irrigation is continued almost up to the spring harvest, which generally comes with a rush, all the crops ripening almost at once; and labour at this season often fetches extraordinary prices. When the spring crops are fairly garnered, little can be done beyond finishing up the tobacco, watering the cane, sowing early maize and *jawâr* for the cattle, and getting in the maize and cotton; and even this can only be done where irrigation is available. Consequently this is a season of comparative leisure; and the people occupy themselves, the stars permitting, in marrying themselves and their neighbours.

The weather.

The east or cold damp wind (*parwa*) is the abomination of the cultivator. It breeds, especially when the weather is cloudy and the ground wet, all sorts of pests and diseases, animal and vegetable; and the only point in its favour is that it does not dry the land and shrivel up the plants, as the fierce west wind will do, and that it is often the precursor of rain. It is specially obnoxious when the pollen is ripe and the seed forming, or about Asauj and Phágan. The west or hot dry wind (*pachwa*), on the other hand, if it is not too strong, is hardly ever unwelcome so long as there is plenty of rain; for it does no harm beyond drying things up. It is specially desirable when the plants are young, as it forces them on; and again when the pollen is ripe and the seeds forming; and again when the crops are ripening; but if too strong or too hot, it is called *jhola*, and blows off the pollen, shrivels up the grain, and blows down the plants: while in autumn it dries up the moisture upon which the spring sowings depend. After the spring crops the fiery hot wind cannot be too fierce or too continuous, as it dries the grains and makes winnowing easy; and, best of all, it presages a good rainy season. Rain can hardly be too plentiful, in the autumn at any rate, till the pollen forms. While that is ripening, rain washes it off and does much harm; and again when the grain is ripening rain rots it and diminishes the yield. But the injury is reduced to a minimum if a good west wind is blowing. And rain, after the crops are cut, is especially injurious, as the produce rots on the ground; and even if the grain is saved at the expense of the straw, the cattle suffer from want of fodder. The ideal season is one in which rain falls early, so as to allow the autumn crops to be sown over a large area; and falls heavily at the end of the rains, so as to leave the ground moist for the spring sowings. This last desideratum is expressed in the proverb "*samân Mangsir par parakhiye; aur dhinú Phágan men; aur tiri jab parakhiye nirdhan ho bhartár*:" "the season is tested in Mangsir; cattle in Phágan (when they are pergnant); a wife, when her husband is poor."

Seed time and harvest.

The approximate sowing and harvest times are given on the opposite page. These are the ordinary times. In an exceptional season the sowing may be further delayed a fortnight or even more, but to the injury of the produce :—

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Seed time and harvest.

Staple.	Seed time.		Harvest.	
	From	To	From	To
Coarse rice ...	20th May ...	5th July ...	5th Septr. ...	5th October.
Bajra .	1st June ...	15th ,, ..	20th ,, ...	20th ,,
Jawár ...	10th June ...	5th August.	20th Octr. . .	20th Novr.
Maize ...	Do. ...	20th July ..	5th Septr. ...	20th October.
Múng ...	Do. . .	Do. ...	20th Octr. ...	20th Novr.
Moth ...	Do. ...	15th August.	Do. ...	Do.
Gram ...	1st Sept. ...	10th Octr. ...	10th April ...	13th April.
Masúr ...	5th Sept. ...	Do. ...	Do. ...	Do.
Mixed wheat, gram, barley ...	20th Sept. . .	30th Nov. ...	25th March...	Do.

For the *kharíf* crops rain is most needed in June and the first week of July, and it cannot be too plentiful. They are also greatly dependent upon the rains in the end of July and first-half of August. If it is either too plentiful or too scanty, it injures the crops. Too much rain at the end of September also injures the crops, as it washes off the pollen from the flowers. For the *rabi* crops rain is most needed in August and the beginning of September; and it can hardly be too plentiful; good rain in December and January is also most beneficial. Rain after the first week of March is injurious, as it affects the flower, as above. In both crops rain at harvest time does infinite damage, as the grain when cut lies in the fields for weeks, and both it and the straw are liable to damage from wet.

The three main kinds of soil, *dàkar*, *rausli*, and *bhúr* have been described in Chapter I (page 2). Of these, *bhúr* is by far the least valuable; in fact, in all the early reports it is described as unculturable. The yield is always poor; and if there is much rain, the soil becomes so soft that the crops fall down. At the same time it is cool, and retains its moisture for a long time; and when the covering of sand is thin and overlies better soil, which is only very occasionally the case, very good crops are produced.

Dàkar is terribly stiff and hard to work, and will yield nothing without water. But when there is plenty of that, it gives splendid rice and gram crops, one after the other, in the same year. As a soil, *dàkar* is inferior to the fertile and more tractable *rausli*. But where there is no irrigation, its position in all the hollows and drainage lines gives it great advantages, as whatever rain water there is collects on the *dàkar*, and it will give crops in seasons when those in other soils fail for want of water. In the canal tract, on the other hand, where water is plentiful and swamps only too frequent, this very position is a drawback instead of an advantage.

Agricultural Appliances.

Means of irrigation

Table No. XIV gives details of irrigation. Further information will be found at pages 177 to 203 of Major Wace's Famine Report, compiled in 1878. At that time 20 per cent. of the cultivation was irrigated from canals, 19 per cent. from wells, 1 per cent. was flooded, and the remaining 60 per cent. was wholly dependent upon rain.

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Means of irrigation.

The following figures show the number of wells then existing in the district, with certain statistics regarding them :—

Number of wells.	Depth to water in feet.		Cost in rupees.		Bullocks per wheel or bucket.		Cost of Gear.	Acres irrigated per wheel or bucket.	
	From.	To.	Masonry.	Without Masonry	Number of pairs.	Cost in Rupees.		Spring.	Autumn.
1,030	...	20	150	5	2	100	25	8	6
3,752	20	30	225	10	2	125	25	8	6
125	30	40	300	...	4	300	30	7	3
1,464	40	60	550	...	4	400	35	7	3
992	Above	80	800 to 1,200	...	4	500	40	6	2

The irrigation is by Persian wheel in the Khádar and in the Powádh tract to the north of the Ghagar; and elsewhere by rope and bucket. Water is found within 30 feet of the surface in the Powádh circle in Kaithal, in the riverain of the Jamná, and on the edges of the canal tract; at from 30 to 40 feet in the lower Nardak and on the Jamná water-shed; between 40 and 60 feet in the middle Nardak and in the Chíka circle of Kaithal, and over 60 feet in all the central and higher Nardak. In the Kaithal Nardak and Bángar the water level is generally below 100 feet. Of the wells shown above 671 are unbricked.

Well-sinking.

As a well must be begun on a Sunday, on Saturday evening five small vessels full of water called *bholra* are put out in various spots near where the well is to be, and a lighted lamp is put by each. Next morning that spot is selected for the well where the vessel has lost least water by evaporation. A circle is formed to limit the excavation, and digging is begun so as to leave the central clod with its tuft of grass undisturbed. When the clod is a fair height they cut it off at the bottom and bring it out whole, they call it *Khwája jí*, salute it, and feed Bráhmans to it. If it breaks the omen is bad, and the site is abandoned; but if the water omen gives any very marked result in favour of the spot, they "take great care of *Khwája jí*." The pit is dug out till water begins to soak in; a well curb *(nimchak)* is then made of 12 felloes (*gadwál*) bound together with iron. *Dhák* is the best wood; after that *gúlar*. The carpenter takes Re. 1 for every hand (18 inches) in the breadth of the well, the iron costs Rs. 10, and the wood Rs. 6. All the friends from the whole *thappa* are collected, the *nímchak* is lowered with great ceremony and many invocations of Narain and *Khwája jí*, and *gúr* is divided. The cylinder of the well (*kothí*) is then built up on the curb to a height of 10 or 12 feet above the ground level. A platform is made on the top, and it is weighted with earth, a winch is set up and a sort of pile-driver. A dredge (*jhámb*) is then worked at the bottom of the well within the cylinder, the pile driving it in and the winch lifting it up. The operation is superintended by skilled divers (*chaian*, *dabolia*, or *dubia*), usually Jhínwars, who fill the mud and slush into baskets in which it is raised to the top. As the earth is dug out the cylinder sinks, and is, if necessary, built up now and then.

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Well-sinking.

The water-bearing strata in the Bángar are popularly fixed at 24, 32 and 52 hands of 18 inches each from the surface. The two upper are covered, and the lowest is supported by a pan (*garh*) of clay, and below the two upper ones and above the lowest one lies blue sand in which water is found. A permanent supply of spring water is called *búm*; mere soakage water is called *sár*. The *báwani* or lowest stratum holds the real spring water; and a well that reaches it is called *sultáni*. The two upper supplies fail in droughts; and the highest, even if the canal stops for a time. In the Khádar, of course, there is no spring water; and close to the canal the soakage (*choa*) is so great that wells cannot be sunk to any depth; while for the same reason the *báwani* cannot be reached at all in the canal tract.

When the pan which the well is meant to tap is reached, the pile is driven through the pan so as to pierce it, and the water rushes up. If the well is once carried so far as to pass through the clay into the sand, it must be carried on to the next pan, otherwise it will eventually fill up with the sand, or even break with its own unsupported weight. When the supply seems satisfactory, two leather buckets are rigged up, and every effort made to exhaust the supply so as to test its permanency. If they fail, the well is practically finished. The earth is filled in all round, the upper part of the cylinder (*man*) is built up so as to give command of the surrounding fields, and a gear put on. A niche (*áli*) is left in which to burn lamps to Khawájá Khizr on *Holi*, *Díwálí*, and Sunday; and Bráhmans are again fed. The ceremony of marrying a well is usually performed by rich Bráhmans and Baniás, hardly ever by agriculturists. In the Khádar the well is stopped when a fair supply of water has been obtained and a stratum reached stiff enough to support the cylinder.

A brick well for a single bucket or wheel is about 7 to 8 feet in diameter; if for two, about 11 to 12 feet. In the Khádar the single well will cost Rs 250 to Rs. 325; in the Bángar Rs. 350 to Rs. 500; in the Nardak any price up to Rs. 1,300, according to depth. The cost of a well built by Government at Rajaund was Rs. 2,300; but it was nearly 200 feet deep. Ordinarily, of course, a good deal of the amount of cost is on account of labour which will not be actually paid for; either that of the makers themselves, or of their friends in the village. Of late years a new kind of brick has been introduced called *gadwála*. It is very long, and broad, and thin, and forms a small segment of an annular disk. It has a tooth at one end and a notch at the other. Wells are made of a single thickness of these built up dry without mortar. They are cheap, a well built of them costing not more than a third as much as a good brick and mortar well. But it will not last long, while the other will last at any rate 60 or 70 years, probably more.

Unbricked wells.

In the Khádar unbricked wells (*kúi* or *kachcha kui*) are made by digging out the sand and lining the lower part, which is of greater diameter than the upper, with a lining (*jhál*) of woven withies of *jhau* or *simbhálù* or *túnt*. They are made in a few days, and at a cost of Rs. 5 to 10, spent in buying the lining, and feeding the friends who come to help in the digging after water is reached, which must be hurried on.

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They fall in during the next rainy season. Unbricked wells used to be made in the stiff Bángar soil, and lasted many years; but the soakage from the canal now renders it impossible to dig them.

Well-gear; the Persian wheel

Throughout the Khádar, where the water is never more than 25 to 30 feet from the surface, the Persian wheel alone is used for irrigation. Throughout the Bángar and Nardak, even if the water is near, the leather bucket is used on wells. But wheels are used to lift canal water where necessary, and are then called *jhaláns*. The Persian wheel or *harat* consists of a horizontal cogged wheel driven by bullocks yoked to a beam (*gádal*) fixed to its vertical axis (*b ilaur*). This wheel gears into and drives a vertical toothed wheel (*chakli*), half of which is under ground, and the horizontal axle of which (*belan* or *lát*) projects over the well. On this axle and over the well is fixed a vertical lanthorn wheel (*bár* or *od*) on which hangs the *mál*, a sort of rope ladder made of two side ropes and cross sticks. To the cross sticks are tied the earthen vessels (*tíndar*) which raise the water. As they come up they discharge the water through the lanthorn wheel into a water-trough (*nisár*) inside the wheel, which returning on itself twice at right angles, passes out of the wheel on the outer side, or that further from the centre of the well where there are no spokes, and delivers the water into the cistern (*párcha*) whence it flows off by small channels (*khánd*) to the fields. But as they are tied rigidly on to the *mál*, they spill some of their water before they are over the water-trough; and the waste of labour thus occasioned is very great. The driving gear costs some Rs. 15, and lasts 6 or 8 years. The lanthorn wheel and subsidiaries cost about Rs. 10 more, and only last about a year. The *mál* is made at home, always of *dáb*, which resists the action of water better than any other fibre. The whole gear is said to include 360 separate pieces of wood, which enjoy some 70 or 80 separate names among them.

The rope and bucket.

The leather bucket (*charas*) consists of a buffalo hide bag swung from an iron ring and handle (*mandal*). It is drawn up by a strong rope (*láo*) made of *san* fibre, and passing over a small strong wheel *bhon* or *chák* fixed over the well. The oxen who draw it run down an inclined plane (*gaun*) dug out by the side of the well, the driver sitting on the rope to bring the strain more horizontal, and return by a less steep incline parallel to it. When the bucket reaches the top, the man who stands at the mouth of the well seizes the rope and pulls the bucket on to a masonry apron (*panhár*) on which he stands. He then bids the driver unloose the rope. This releases the bag, which collapses, and the water shoots into the cistern (*párcha*). The empty bucket is then flung into the well, the rope being held under the foot to prevent it falling too quickly. When the oxen reach the top, the rope is fastened on again. and the operation recommences. The directions to the driver, intermixed with prayers for protection, are delivered in a song, the cadences of which the bullocks soon learn to recognise, and stop, turn, and start of their own accord at the proper moment. In this song, and there only, the driver is called Ráma, and the bucket *bárá*. The work at the well mouth is very dangerous, as any mistake will precipitate the man into the well. The bucket costs Rs. 6 to 8 and lasts a year; the iron ring and wheel Rs. 3 each. The *láo* is made at home. The bucket will lift 320 to 400 pounds of water each time, and there is no waste.

Table No. XXII shows the number of cattle, carts and ploughs in each *tahsíl* of the district as returned in 1878-79.

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Agricultural implements and appliances.

Cattle.

Agricultural work is entirely done by oxen. Male buffaloes are occasionally yoked in carts, but very rarely indeed in anything else. In the light soil of the Khádar, with water near the surface, small cattle costing Rs. 20 to Rs. 25 each will do all that is needed. But for the stiffer soil of the Bángar plough cattle now cost Rs. 35 to Rs. 40 each; while oxen that can do a full day's work on the deep wells of the Nardak cannot be got under Rs. 50 or Rs. 60 each. An ox begins work when rising 4, and works for 10 years. For a bucket well, eight oxen is the full complement; for a Persian wheel, four. A plough is now always reckoned at two bullocks. It used to be reckoned at four; but the change is due only to the greater sub-division of land owing to increased population, as many of the agricultural accounts are kept by ploughs.

Fodder.

Fodder in general is called *nyár*. The fodder of the autumn crops consists of the stalks of the great millets and of maize, which are carefully stacked on end in a stack called *chhor;* of rice straw which is merely piled up in a heap (*kunjra*); and of the *bhús*, or broken straw left after thrashing of the pulses. The spring crops give *bhús* only, also called *túri*, if of wheat or barley. *Bhùs* is stored in a *kup* made of a wisp of straw (*thanda*) wound spirally round and round upon a foundation of cotton stems so as to form a high circular receptacle in which the *bhùs* is packed and preserved and thatched when full. A long low stack fenced in by cotton stems alone is called a *chhán* or *bhusári*. Near the city the people store their *bhús* in mud receptacles (*khuta*) and plaster it all round the top. The *bhús* is taken out from a hole at the bottom as wanted. Stems of millet and maize are chopped up into small pieces (*sáni* or *kúti*) before being given to the cattle. An ox during ordinary work will eat 20 seers of grass and a seer of grain daily; if working at the sugar-mill or well bucket, nearly twice that. The cost of stall feeding may be taken at about 2 annas a day. Of course the fodder varies according to the season. The mass of it consists of grass and straw of cereals; a little pulse straw is always added; and green food when obtainable. In the cold weather *methi* and rape and carrots, and at all times the weedings, are given to the cattle. Besides this some cotton seed or oil-cake, or either *gawnr*, *moth* or gram is daily given. The best fodder of all is the straw of the small pulses, and is called *míssa*; after that, that of wheat and barley, called *túri*; after that the *jawár* stems or *chari*. *Bajrá* stems are seldom given alone. They are chopped up and mixed with one-third of *mùng* fodder, or failing that, with some oil-cake (*khal*) or pea-meal of gram.

Manure.

The following description of the use of manure as practised in the district, was furnished for the Famine Report of 1879 (page 247). Rotation of crops is discussed at the end of this section :—

"Of irrigated land some 31 per cent. is manured, while 15 per cent. is double cropped. Of unirrigated land 13 per cent. is double cropped, but manure is little used. No land but the very small area immediately round the cities is constantly manured, if by that is meant every year. On the other hand, no land is 'occasionally manured,' if by that is meant at considerable intervals. In manured land sugarcane, cotton, tobacco,

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Manure.

maize or fine rice is ordinarily sown, to be followed by wheat, *methi*, *jawár*, gram, &c., without additional manure. The amount of manure given varies from 350 to 200 maunds per acre, usually every second year (see also table on page 72 below). Besides this, top-dressing is used near the cities to the extent of some 30 maunds."

The dung-heap (*kurri*) is started when the rains are over. A great hole is dug in the ground, and straw, cattle-bedding, sweepings of horse and cattle-sheds, and all sorts of refuse, are thrown into it. During the rains the cow-dung is too wet to be patted up into fuel-cakes, and is all thrown on to the heap. The rain is allowed to fall freely upon it, and it is periodically turned over and worked up by the sweepers. As soon as the rains are over, it is fit for use. It is taken to the field in carts, sprinkled by the sweepers, and ploughed in. Manure proper (*khár* or *khát kúra*) is not very often used as a top-dressing. But the market gardeners largely use the nitrous efflorescence (*rehi*) found about the village homesteads as a top-dressing for young wheat. The similarity of the name has led to statements that the injurious saline efflorescence or *reh* which covers so much of the country is used for manure. This is not the case in Karnál. *Reh* consists chiefly of sulphates, and is injurious; *rehi* of nitrates, which, of course, are the best of manures. Weeds, grass, and plant stems, and roots which cannot be used as fodder, are generally burnt on the fields, and the ashes ploughed in. The great object of the cultivator is to get enough manure for his sugar-cane. After that, what is over is divided between fine rice, cotton, maize, and the best wheat land; but these crops, excepting rice, are often sown after sugar-cane, when no fresh manure is given. In the Nardak manure is little used, as the people say that in the stiff unirrigated soil, with often scanty rain-fall and very careless cultivation, it only burns up the plants.

Use of dung as fuel.

The people are often abused as ignorant and careless because they use so much of their cow-dung as fuel. But they are quite as keenly alive to the value of manure as we are, though they have not yet arrived at feeding for manure. Of course wood fuel (*indhan*) is simply not obtainable in the Khádar and Báugar in anything like sufficient quantities. But even where the supply is unlimited, as in the Nardak, it does not answer the purposes of the people. In the first place, the vessels of unglazed pottery in which all, who are not rich enough to afford a complete stock of brass vessels, cook their food, will not stand well any fire fiercer than the smouldering one given by dung; and in the second place, the wood fire would need constant attendance. What the house-wife wants is a fire over which she can put her pot of *dál* or vegetables, and go off to the fields, or to the well, or to spin in the alley, feeling sure that the fire will smoulder on and gently simmer the food. And dung gives her exactly what she wants.

The sugar press.

The sugar press or *kolhú* consists of a stump of a *kikar* tree hollowed out and bound with iron, and firmly fixed in the ground. The hollow is lined with pieces of hard wood (*rora*), which are renewed when worn out, and are so shaped as to from a large upper cavity for the reception of the pieces of cane, and below that a small socket in which the ball of the crusher works. The crusher (*lát*) is a long beam of *kíkar* with a knot at the lower end which works in this socket; and above that a conical-shaped enlargement (*chúran*) which crushes

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The sugar press.

the cane against the sides of the *kolhú* as it moves round in the cavity. The beam to which the oxen are fastened (*pát*) has a curved bearing (*gali*) at one end which travels round a groove outside and at the bottom of the *kolhú*; it is heavily weighted at the other end. To it is fastened a connecting rod (*mának, thamba*) which projects upwards and is tied at the top to a flat piece of wood (*mákrí*) with a socket in its highest end. Into this socket the top of the crusher fits. Thus the weighted beam and the crusher form a system which is supported by the bearing of the *gali* against the outside, and by that of the conical crusher against the inside of the press; and as the system revolves round the press, the cane is crushed by this latter bearing, and the juice runs down past the ball and socket joint and passes out by a small hole at the bottom of the press. The oil press has the same name and is identical in construction with the sugar press. Within the last few years the Beheea mill with iron rollers, has been introduced, and is rapidly growing in favour. General Parrot, the local agent, writes in 1883, "the first year only 4 were sold, the second year 93, the third 395, and next season I hope to dispose of at least 500. I sometimes have as many as 70 carpenters and 16 smiths at work on them." The price per mill is Rs. 100. As the Karnál people do not make rope of the cane refuse, no objection is felt, as in the Panjáb, on the score of its being destroyed by excessive pressure. The mills save a large percentage of the labour; and can be repaired in the villages with the exception of the rollers, which with proper care are practically indestructible.

The cart.

The ordinary village cart is made on the ordinary Indian pattern. It is exceedingly small, costing Rs. 20 to Rs. 35, and is used for agricultural purposes only. When used to carry manure, a *kìrì* or basket-work lining of cotton stems is put inside the frame-work to keep the contents from falling out. It is always drawn by two bullocks, and will carry 10 to 15 maunds.

The plough.

The plough consists of a wooden body *(hal)* with the bottom cut off horizontally, and the nose cut off nearly vertically. The top of the body has a long peg in it which forms the handle and is held in one hand, while the other is employed to twist the bullocks' tails. It is drawn by a beam *(hàlis)* passed through a mortice in the middle of the body, which is fastened to a yoke *(júa)* consisting of a straight piece of wood which rests against the humps of the oxen, 4 small pegs keeping it from shifting laterally. The coulter (*phàlí*) passes through a mortice through the bottom and nose of the plough. The share is of two different shapes. The *panyàri* is a broad cutting blade of wood passed through the same mortice with the coulter, and is used for stiff soil. The *pàtha* is a thick, round, conical-shaped continuation of the nose let into a notch in the latter, and secured by the coulter which passes through it. It is used for the light Khádar soil. Both ploughs are ordinarily called *nág* ploughs, though the *panyàri* plough is occasionally called *mùnd*. But the *múnd* or *pothan* is really a very large heavy plough drawn by large bullocks, and used only on the Rohtak border. In the Khádar the share is shod with iron, otherwise the sand wears it out. The plough should be all of *kikar* wood; and costs from Re. 1-12 to Rs. 2.

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Minor agricultural implements.

The other implements used by the cultivators are *sohágga*, a flat board of *kíkar* or *jánd*, to which several bullocks are yoked. The drivers stand on the board, and it is dragged over the field, crushing the clods. It costs Re. 1 to Re. 1-4. *Girri* or *úd*, a heavy wooden roller of *kìkar* or *shìsham* used for the same purpose, and costing, Rs. 10 to Rs. 20 according to size. *Jandra*, a flat board with or without small teeth, worked by two men, one holding the handle, and the other pulling it towards him with a string. It is used as a rake for making the beds for irrigation (*kyári*). *Jera*, a pitchfork with 6 teeth of *kìkar* or *kendú*, the handle being of *ber* or bamboo. If with two teeth called *dosinghá*, if with four, *chausingha*. *Dinga*, a piece of wood bent at an angle with the short end sharpened, used for raking up and spreading out straw, &c. A rake with long iron teeth called *dínga* or *pháorá* is used, but not commonly. *Kassi*, a spade costing Re. 1-8. *Phàora*, a flat broad shovel, costing Re. 1-4. Both the above are set at right-angles to the handle, and used chopping fashion. *Kasoli*, a tiny one-handed *kassi* used as a hoe; costs 4 annas. *Khurpa*, a flat blade used to grub up weeds and grass; costs 3 annas. *Dantí* or *Daràntí*, a toothed sickle, costing 2 annas. *Kohári*, an axe costing 8 annas to 12 annas. *Gandássa*, a chopper consisting of a sharp heavy blade set in a back which forms a continuation of the handle, and used for cutting up stalks of *jawàr*, &c., for fodder, costs 8 annas. *Dànt* a fine curved blade set in a flat board which is held under the foot while vegetables, &c., are sliced or split up against the blade; costs 2 annas. *Ukhal, ukhli*, a large mortar of *shísham* or the hill *khair* or *jínd* used for husking rice; costs 4 annas. *Musal*, the pestle used with the above, consisting of a heavy bar of *kíkar* or *jínd* some 5 feet long, worked with both hands. The lower end is shod with an iron ferrule, the edge of which projects beyond the wood and is rounded off. Thus it nips the rice grains between the round iron edge and the side of the mortar, and squeezes the seed out of the husk, not crushing it as it would do were the end flush; it costs Re. 1. *Chháj*, a winnowing shovel shaped like a dust pan, and made by *Jhínwars* of the top joint of the culm of the *sarkara*; it costs 2 annas. The cultivator will also have four or five broad flat baskets (*tokrà, tokri*) made by *jhínwars* from withies (*màla*) of *dhàk, simbhàlú, túnt, jháo*, or *kajùr*, for carrying grain, fodder, or manure; several rope nets (*jháli*) for carrying fodder; some muzzles (*chínka*) of netted string for his cattle when thrashing or going to pasture; some *sàntàs* or leather whips; some *nàrka* or leather thongs to tie the yoke to the plough; a *nàr* or a similar but larger thong for the cart; and a good supply of ropes and string called *ràs* or *dàmras, jeora, rassì*, and *jeorì* or *bàn* as they decrease in thickness. The implements, for which no price is given, are either made at home, or furnished by the village menials as part of their *begàr*.

Agricultural operations.

Breaking up and ploughing.

In breaking up new land the first thing is to cut down the bushes and grub up the stumps (*jhúndìtor*). A thorny bush weighted with clods, and called *godal*, is then drawn over the land to collect the grass and weeds, (*kabár*). Ploughing (*bàhna*) is then begun. Two oxen are yoked in each plough, and several ploughs often work side by side. A furrow is called *khùd*, a land *halai*. The

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Breaking up and ploughing.

bullocks always turn from right to left. The first ploughing is called *pár*, the succeeding ones *dosri*, *tisri*, *chausri*, *pesri*, *chesari*, and so on; each ploughing being at right angles to the last. For the more valuable, and especially for the spring crops, the land is often ploughed 12, 14, or even 16 times. The plough only turns up the soil some 3 inches deep, and the furrows are about the same width. As the share is flat, the soil is only scratched up, and not turned over.

A yoke of oxen will plough for 6 hours, then rest 3 hours, and plough 6 hours again. But if possible there should be two yokes, each working half the day. The labour of the ploughman (*háli*) is very severe, and he cannot continue it many days running. A man to feed the bullocks (*nyár wála* or *báldi*) is needed for every two ploughs; and in fact the recognised establishment is four men per plough; two in front, the ploughman and the hedger and ditcher, and two behind to bring food and weed, &c. These two latter may be women. In five days 3 to 5 acres can be ploughed according to the quality of the bullocks. The year's ploughing must not be begun on a Monday or on a Saturday, or on the 1st or 11th of the month; and on the 15th of the month the cattle must rest entirely. Every day when the plough is brought out the ploughman makes obeisance to it. When the season's ploughing is first begun a prayer is offered up generally to *Dharti Máta* or Mother Earth; the common form of the agriculturist's prayer being "*Sáh Bádsháh se surkhrúh rakhiye, aur is men achchha náj de; to Bádsháh ko bhi paisa de, aur sáh ká bhi utar jáwe;*" or "keep our rulers and bankers contented and grant a "plentiful yield; so shall we pay our revenue and satisfy our money-lender." The plough is carried to and from the fields by being hung over the yoke between the bullocks (*sot lena*).

Harrowing.

The *sohágga* and *girri* are used for this purpose; the latter if the land is dry, the former if wet. Both are seldom used at the same time. They are used between the ploughings, and also after the last ploughing. The land has to be gone over three or four times, each time at right angles to the last direction; more if stiff, less often if very sandy. Each takes four oxen and two men to work it, besides the man for grass; and will do 5 to 8 or even 10 acres once over in five days.

Sowing.

Sowing is called *bijna*, seed time *boára*. The seed is sown either broadcast (*phánt*, *khidána*), or in the furrows by a man following the plough (*burri mùthi*); or by a drill (*orna*) made of a bamboo tube with a leather cup at the top, tied on to the plough. This last method is adopted if the soil has dried up much, so as to ensure the seed reaching the *ál* or moist subsoil. After sowing, the *sohágga* is passed twice cross-ways over the field except when sown with a drill, in which case the *sohágga* is not used. When sown with a plough, the area sown is limited by the capacity of the plough. A man can sow 20 acres broadcast in five days. The limitation as to time and season, and the prayers when beginning the sowing are the same as for ploughing. A certain amount of care is taken to get good seed-grain. With maize and great millets they select the best heads for seeds; and they will often go some distance to buy good seed. But there is no attempt at real systematic selection; and worst of all, no attempt at introducing new blood from other places.

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Well irrigation.

Wells are seldom the property of a single person. The sharers irrigate in turn for a day or half a day each, according to a rota (*bári, osra*) fixed by lot, each having a number of turns in proportion to his share, but not necessarily consecutive. If heavy rain interrupts irrigation, the rota starts afresh after it; if the rain is light, it goes on from where it was broken off. There are often two wheels or buckets on the same well, in which case the land appertaining to each is called its *adda* or *sek*. The people irrigate (*sínína*) from wells either by bucket or by wheel. For irrigating with the leather bucket five men are needed; two men to catch the bucket (*bairia*) working half a day each, as the labour is very severe; two drivers *khambi* or *kilia* from *kíli* the peg, which fastens the *láo* to the yoke; and one *panyára* to look after the channels and let the water successively into the irrigation beds. There should also be four yoke of oxen, two working at once, one coming up while the other goes down the incline, and changing at noon. The well is worked from dawn till sunset, with 3 hours rest in the hot weather. Four yoke of oxen will water 3 to 4 acres in five days according to the depth of the well; two yoke will water 2½ to 3 acres in the same time.

The labour at the Persian wheel is much easier, as expressed by the saying "*Harat ek ánkh se chalta*," "one eye is enough for a *harat*;" for the driver (*gaderia*) who sits on the beam to which the yoke is tied may be blind, and the *panyára* only needs one eye. But of course a man for grass is needed. It is better to have four yoke of oxen to change every 3 hours, as the rotary motion soon tires the bullocks, but there are very generally only two; of course in the former case the bullocks would do other work also, and in any case very weak cattle are sufficient to work the wheel. The well is worked as long as it is light; but seldom at night, except when the spring crops are ripening under a hot wind. A well will water 3 acres of fair soil in five days; but sandy soil absorbs so much water that only 2 to 1½ acres, or even less in very sandy soil (*thali*) will be watered in that time. The soil on the unbricked wells is generally of this description.

When there has not been sufficient rain, it is necessary to irrigate the land for ploughing, or sowing, or both. All such irrigation given before the crop is above ground is called *paleo*. The first watering to the young crop is called *kor*, the second *dosra*, the third *tisra*, and so on. When the ground has dried slightly after the *paleo*, or rain, so as to be neither too wet nor too dry for ploughing or sowing, its state is called *batáo*. The water is conducted from the well in small channels called *khái* or *khánd* to the fields. The field, except for *paleo*, has been divided off into beds or *kyáris* by the use of the *jandra*, and the water is let into each successively. This economises water in two ways: *first* by confining the area to be covered at once with water, and so reducing the average depth of water when the ground is on a slope; and *secondly*, by giving the water less irrigated ground to travel over in order to reach the furthest point of the bed, and so reducing absorption in excess of what is needed.

Canal irrigation.

The water passes from the canal by a head (*mohand*) into the main distributaries (*rájbáha*). From them it is distributed by small channels (*khánd, khál*) to the fields. Each main channel supplies many villages; and each village has its turn of so many days. The

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Canal irrigation.

period while the water is shut off is called *tàtìl*; and if hot wind blows during this time, or if, when the turn comes round, the water fails, great loss is the result. Irrigation from the canal is practised in two ways. If the water is delivered above the level of the fields, the irrigation is called *tor*, or flow; if below them, *dál* or lift. In flow irrigation all that is needed is to cut a hole (*náka*) in the channel and let the water on to the field. Hitherto it has not been the practice to divide the fields into beds, and the result has been that the land has been flooded with an inordinate quantity of water. But under the rules now in force double rates will be charged for fields without beds, except for rice-fields, in which a considerable depth of water is absolutely necessary. The area that can be irrigated in this manner in five days is only limited by the supply of water; one good opening will water 30 to 50 acres. Irrigation by lift is practised thus. The water is brought up by a low-level channel, which is met by a high-level channel into which the water has to be lifted. The end of the lower channel is enlarged and a small pool (*chái*) dug out; on either side of this standing places (*penta*) are dug in the banks. The end of the higher channel is also enlarged into a basin (*nyaini*) which is cushioned with grass to prevent the falling water from scouring. Two men called *dália* then stand, one in each *penta*, and swing between them the *dál* or scoop. This is in the shape of a small canoe, and is made of thin planks of *dhák* wood sewn together with leather, costs 8 annas, and lasts a year. It is swung by four strings, two at each end on either side of the point. The *dálias* take a string in each hand and swing the scoop, dip it into the water, swing it out full of water up and over the *nyaini*, and tip the water out by tightening the upper strings. The operation is performed with wonderful skill; but the labour is very severe, and a man can only work for an hour consecutively at it, and cannot work two days running. The outside height of the *mathík* or bank over which the water has to be lifted is 4½ feet; if the total lift is greater two lifts are used, one above the other. It takes four *dálias* and one *panyára* to work a *dál*, and they will water 3 to 5 acres in five days, according to the height of the lift. Irrigation by *dál* is sometimes practised from the village tanks and swamps, but, as a rule, only for small plots of valuable crops.

Weeding.

Weeding is called *naulái*. It is chiefly confined to the more valuable crops. It is performed by men, women and children, the petticoats or wraps being gathered into a bag (*jholi*) in which the weeds are collected. The weeds are valuable as green food for cattle. As they must be got under while the crop is young, hired labour often has to be resorted to. One person will weed a sixth of an acre in five days; and in the rains, where the soil is heavy and the weeds long, not nearly so much. Fields should be weeded once, twice, thrice or five times. It is unlucky to weed them four times.

Protection of crops.

Of course any division between individual fields, save the *ád* or boundary ridge, is unknown. But the masses of cultivation are always surrounded by dead hedges of thorny bushes (*dhínkar*), very often very formidable obstacles indeed, to keep out the cattle and wild animals. They are also often surrounded by a bank (*kara* or *kot*), and ditch (*khái*); and in the Khádar, where bushes are scarce,

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Protection of crops.

this is their chief protection, the bank sometimes having a euphorhia hedge planted on it. Access is given by a stile or *deva*, a Y-shaped piece of wood firmly fixed in a gap. Young sugar-cane is generally surrounded by a low wall round the individual field till it has grown old enough to take care of itself. But nothing avails to keep out the deer and pigs which do terrible damage to the crops, or the monkeys which are worst of all. The crops are also watched night and day by men called *rukhwála*, literally "the man in the tree." In the fields of the great millets these men sit on platforms (*jaunda*, *daunja*) raised well above the crops, from one to another of which stretch strings (*patán*) which the watchers ever and anon jerk so as to swing the great plants about and frighten the birds. They are also provided with slings (*gopia*) with which they sling mud pellets (*gola*); while the crack of the sling greatly enhances the effect. The lower crops are watched from the ground, the men wandering about armed with long thongs (*tatiála*) which they crack like a stock-whip. Scare-crows (*daráwa*) of sorts are set up in every field. And the village which is fortunate enough to obtain a licence to carry a gun in the name of one of its menials, sleeps happy and dreams of fat crops.

Reaping.

Reaping is called *láwni*, hired reapers *láwa*, and their wages *lại*. The great millets are cut and collected into bundles (*púli*) which are stood up on end in a stack (*sawa*) to dry. The smaller grains are collected and tied up into sheaves (*bhrá*) if carried to the thrashing floor on the head, and into small bundles (*púli*) if carried in a cart. They are then taken to the thrashing floor and piled up in a *kùndra* or stack. The straw with the ear and grain is called *lán*. One man can reap about an acre in five days. Reaping for the season must be begun on a Monday and must be finished on Wednesday, the last bit of crop being left standing till then. Hence the saying *Mangal làwa, Budh badhảwa.* "Tuesday for the reaper and Wednesday for the finishing." A prayer is offered up on first starting reaping. And a little is always left under the name of *maríla* for the poor as gleanings (*sillá*).

Thrashing.

To thrash is called *gahná*. The *pair* or thrashing floor is swept and plastered by the *Chamárs*, and a pole (*med*) set up in the middle. The straw with the ears is then spread out round the pole, and four to ten or twelve bullocks, according to the quantity of grain, are tied up in a row and one end fastened to the pole. Their collective name is *daim*. The bullocks then go round and round the pole treading out the grain, the straw being turned over three or four times so as to expose all parts to their feet. The straw is then taken away, and the ears and grain remaining which is called *tár* or *dhar*, is roughly winnowed, and again thrashed in precisely the same manner. The resulting grain is again winnowed, and the broken ears, called *bùndar*, thrashed a third time. With the great millets they cut the heads (*tusri*) off and thrash them only. With maize, the cobs (*kùkri bhùta*) are stripped of their sheaths, dried in the sun, and beaten out (*chhetna*). So, too, small quantities of grains are thrashed out with sticks instead of by cattle. The flail consists of a crooked stick and is called *gesla* or *kutka*. Five oxen will thrash 50 maunds of fine rice, 25 maunds of coarse rice, gram, or *jawár*, 12 maunds of *bàjra*, or 8 maunds of wheat or barley in the day.

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Winnowing.

To winnow is called *udáona* or *barsúna*. The operation is wholly dependent upon the wind, the mixed grain and chaff being taken up in a *chhàj* and shaken slowly out from a height of several feet. The heavy grain falls perpendicularly, while the wind blows the chaff to one side. The chaff (*tùs*) is useless except to burn. With a good wind four men will winnow 25 maunds in a day.

Measuring.

The clean grain is collected into a heap called *rás*, or *thápa*, or *bohal*. Preparatory to measuring the greatest care has to be observed in the preparation of this heap, or evil spirits will diminish the yield. One man sits facing the north and places two round balls of cow-dung on the ground. Between them he sticks in a plough coulter (*pháli*). This symbol is called *Sháod*, the goddess (*sic*) of fertility. A piece of the *ak* tree and some *dúbh* grass are added, and they salute it saying "*Sháod máta, suphal phaliye; Sáh Bádsháh* "*surkhrúh kariye.*" "Oh! mother Sháod, give the increase, and make "our bankers and rulers contented." The man then carefully hides the *Sháod* from all observers, while he covers it up with grain which the others throw over his head from behind. When it is well covered, they pile the grain on it, but three times during the process the ceremony of *cháng* is performed. The man stands to the south of the heap and goes round it towards the west the first and third times, and the reverse way the second time. As he goes round he has the hand furthest from the heap full of grain, and in the other hand a *chháj* with which he taps the heap. When the heap is finished, they sprinkle it with Ganges water, salute it, and put a cloth over it till it is time to measure the grain. A line is then drawn on the ground all round the heap, inside which none but the measurer must go. All these operations must be performed in profound silence.

Then follows the measuring. This must not be done on the day of the new or the full moon (*parwa*), and Saturday is a bad day for it. And it must be begun at dawn, or midday, or sunset (*sic*), or midnight, when the spirits are otherwise engaged. Four men go inside the enclosing line with an earthen measure (*máp*), and nobody must come near them till they have finished. They sit facing the north, and spread a cloth on the ground. One fills the *máp* from the heap with a *chháj* (*minna*), another empties it on to the cloth (*mandhauna* or *risána*), and the other two carry off the full cloth and empty it out (*dhona*), substituting an empty one for it. If the grain is to be divided into shares, for instance two to one, two measures are put together in one spot, and the third separately, and so on, the separate heaps being called *dheri*, a word really signifying a heap, but used commonly for a share. The man who has the *máp* puts down for each measure filled a small heap of corn (*bohali*) by which the account is kept. Perfect silence must be preserved till the whole operation is over; and especially all counting aloud the number of measures must be avoided. But when once the grain is measured it is safe from the evil eye, and the people are at liberty to quarrel over it. The offerings to the Bráhman and Saiyad (*seori*), usually 25 seers for the former and 5 for the latter for Hindus, and 25 each for Musalmáns, are made over to their recipients, a Musalmán *faqír* taking the Saiyad's share. The dues of the *Chamárs* are paid; and the sharers divide the remainder. The weight is got by weighing one

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The work of the year.

máp full, there being no recognised capacity for the measure, as in the Panjáb.

In the canal tract five ploughs with ten good bullocks and 20 men will cultivate 60 acres of land, which will be distributed somewhat as follows :—Cane, 5 or 6 acres ; cotton, 5 ; rice and *jawár*, 30 between them, the low swampy land bearing rice ; wheat, 20. The small pulses will be sown among the *jawár* ; while gram or mixed grains will follow the rice, and *methi* will be sown among the cotton in the same year. On the canal a plough will cultivate a much larger area than in the Khádar, because the oxen are not wanted for irrigation ; but the number of men must correspond with the area, and not with the number of ploughs.

In the Khádar a Persian wheel will, in highly cultivated villages, have some 16 acres attached, of which 12 will be irrigated yearly. There will be two ploughs on it, with 4 oxen, and 4 or 5 men where the women work, and 6 or 7 where they do not ; and these same ploughs will perhaps cultivate some 4 acres of unirrigated land in addition. On five such wheels the 80 acres of land will be distributed somewhat as follows:—Cotton, 8 acres; sugarcane, 6 ; maize, 6 ; *jawár* 20 ; *gawàr*, 4 ; *moth*, 4 ; wheat, 28 ; gram, 4. *methi* will be sown among the cotton, and the maize will be followed by barley or wheat in the same year. Among bad cultivators the area per plough will be greater ; but it will probably include a good deal of unirrigated land, and the total yield per plough will be smaller.

In the Nardak, where the Rájpút runs his plough over the ground, flings in the seed, and trusts to God for the produce, the area which can be cultivated by a plough is capable of extraordinary extension in a favourable season. Five ploughs with their 10 oxen and 12 men (for here weeding is not practised, and few men are required) will cultivate some 100 acres, almost all unirrigated, as follows :—Coarse rice, 30 acres ; *jawár*, 25 ; cotton, 5 ; sesame, 7 ; maize, 5 ; gram and barley, 10 ; gram, 20 ; and a little rape. But if the early rains are heavy, coarse rice will be sown in every available acre of land fit for it, up to 50 to 70 acres ; for the preparation of the ground involves little labour, and the seed time has wide limits. And a great part of that will be followed by gram in the spring. So, again, if the late rains are heavy and last long, the Rájpút goes out rejoicing and ploughs the whole country up for gram. On the other hand, if the rains fail, hardly a sod will be turned or a seed sown in the high Nardak.

Cost of cultivation.

On this subject Mr. Ibbetson writes :—

"It is impossible to estimate the cost of cultivating any particular staple by itself ; or at least, the estimate, when made, is meaningless. Take tobacco, for instance. The necessary labour of both men and oxen would, at market rates, amount to a good deal more than the crop is worth. But the men and oxen are both there ; and their labour is for the most part given at a time when it could not be used profitably in any other way, the tobacco season being the slack time of the year. The only estimate that is worth making is that of the whole cost of cultivating the land under one plough. Taking two oxen costing Rs. 35 each, eating one anna a day, and working 10 years ; three men with their families at Rs. 3 a month each, (I take three so as to include the labour of the village menials) ; half the

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Agriculture and Arboriculture.

Cost of cultivation.

interest on the Rs. 200, the cost of a well; and allowing for wear and tear of implements, we have for yearly expenses—

	Rs.
Keep of bullocks	45
Deterioration	7
Keep of cultivators	108
Interest on cost of well at 20 per cent. ...	20
Wear and tear of gear	5
	185

or Rs. 185 for, say, 10 acres, or Rs. 18-8 per acre. But the actual expenses will be less; the cattle will be home-bred; the fodder, food, and clothes will be home produce; and much of the cost of the well will have been extra labour not paid for, and which bears no interest.

"In the canal tract there will be four men in place of three, and instead of interest on the cost of a well, there will be about Rs. 2 an acre all round for canal water rates. This will bring the cost of cultivating 12 acres to Rs. 225, or Rs. 18-12 an acre; practically the same as in the Khádar. But such estimates are, I believe, very unprofitable, and give us little information about the real cost of production as it comes out of the cultivator's pocket. There are some further remarks on the subject at § 132 of my Printed Assessment Report on *tahsíl* Pánípat."

Agricultural Staples.

Principal staples.

Table No. XX shows the areas under the principal agricultural staples. The remaining acres under crop in 1880-81 and 1881-82 were distributed in the manner shown below :—

Crop.	1880-81.	1881-82.	Crop.	1880-81.	1881-82.
Kangni ...	409	493	Other drugs and spices	312	526
China ...	5,638	2,426	Linseed ...	8	7
Mattar ...	41	9,326	Mustard ...	2,960	7,930
Máish (Urd) ...	6,346	5,467	*Til* ...	2,262	2,280
Múng ...	4,526	6,082	*Tára Mira* ...	193	79
Masúr ...	2,531	4,900	Hemp ...	825	938
Coriander ...	29	43	*Kasumbh* ...	90	102
Chillies ...	880	1,279	Other crops ...	...	879

The table over-leaf shows various particulars concerning the cultivation of each of the chief staples. The figures refer to well cultivated crops; but of course there is always a good deal of land in which the cultivation falls far short of the standard. Most labour is naturally bestowed on the irrigated and manured land, the other getting the leavings of the cultivator's time. The seed time and harvest for each of the principal food grains is given at page 157. The cultivation of vegetables, drugs, spices, pepper, and the like is wholly confined to the market gardens round the town, and to a corner of a field here and there which satisfies the private needs of the villagers. The cultivation of opium has been forbidden in the Dehli territory since 1825; indigo used to be grown largely by the Skinners, but its cultivation has been discontinued. It is not cultivated as a rule in the villages, though there are a few vats near the town, and it is occasionally grown for seed.

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Principal staples.

Native names.	English name or description.	Botanical names, and references.	No. of ploughings.	Maunds of manure per acre.	No. of waterings in sowing.	No. of weedings.	Seers of seed per acre.
Ikh ..	Sugarcane ..	Saccharum officinarum: A.C. 59 ; S. 260 ; B. P. 1052ff.	10 to 15, or more	600	4 to 5	..	..
Bari ..	Cotton ..	Gossypium herbaceum : A. C. 25 ; S. 22 ; B. P. 1731.	2	400	0 to 1	3	7½
Makki ..	Maize ..	Zea mays : A. C. 34 ; S. 263 ; B. P. 799ff.	5 to 6	180	1 to 2	2 to 3	7½
Dhan (siri) ..	Fine rice ..	Oryza sativa : A. C. 31 ; S. 257 B. P. 808ff.	2	?	?	1 or more	?
Dhan (santhi or munji.)	Coarse rice ..	Oryza glutinosa (as above).	2 to 3	0	0	1	22½
Jawar for grain } *Jawar* for fodder }	Great millet, {	Holcus sorghum : A. C. 20 ; S. 262 ; B. P. 830.	{ 2 to 3 2	0 0	0 0	1 to 2 0	7½ to 30
Bajra ..	Spiked millet	Holcus spicatus : A. C. 23 ; S. 259 ; B. P. 837.	2	0	0	1	to 2
Mandwa ..	A small cereal	Eleusyne coracana : A. C. 36 ; S. 254 ; B. P. 839.	2	?	1	1	[illegible]
Moth ..	A small pulse	Phaseolus aconitifolius: A. C. 38 ; S. 73 ; B. P. 847.	2	0	0	0	5
Urad ..	" " ..	Phaseolus radiatus : A. C. 38 ; S. 73 ; B. P. 846.	2	0	0	0	5
Mung ..	" " ..	Phaseolus mungo : A.C. 38 ; S. 73 ; B. P. 844.	2	0	0	0	5
Gawanr ..	A pulse ..	Dolichos psoraloides ; B. P. 849.	2	0	0	0	5
Til ..	Sesame ..	Sesamum orientale : A. C. 56 ; S. 149 ; B. P. 1,623.	2	0	0	0	5
San ..	A fibre ..	Hibiscus cannabinus : A. C. 43 ; S. 22 ; B.P. 1,758.	..	..	..	..	..
Sani ..	" ..	Crotolaria juncea : A.C. 44 ; S. 64 ; B. P. 1,753.	1	0	0	0	20
Gehun ..	Wheat ..	Triticum æstivum ; A. C. 45 ; S. 262 ; B.P. 762ff.	10 to 12	400	4 to 5	2	37½
Jao ..	Barley ..	Hordeum hexastichum: A. C. 48 ; S. 256 ; B.P. 779ff.	2 to 4	?	?	0	30
Channa ..	Gram or chick pea.	Cicer arietinum ; A. C. 50 ; S. 63 ; B. P. 850.	1 to 4	0	0	0	12½ to 20
Masur or Masri ..	Lentils ..	Ervum lens : A. C. 38 ; S. 68 ; B. P. 851.	2	0	0 to 4	0	12½
Sarsam ..	Rape ..	Brassica campestris : A. C. 55 ; S. 11 ; B. P. 1,618.	2	0	0	0	12½
Methi ..	Fenugreek ..	Trigonella fenugræcum: A. C. 65 ; S. 77 ; B. P. 881.	2	?	4 to 6	0	12½ to 20
Tambaku ..	Tobacco ..	Nicotiana tabacum : A. C. 72 ; S. 158 ; B.P. 110ff.	8 to 10	300 to 600	7 to 10	7 to 10	?
Karar ..	Safflower ..	Carthamus tinctorius : A. C. 50 ; S. 124 ; B.P. p. 464f.	..	..	..	..	..

Note.—A. C. is Wright's *Agriculture of Cawnpore.* S. is Stewart's *Panjab Plants.* B. P. is Baden Powell's *Panjab Products.*

Diseases and enemies of plants.

Many of the evils to which plants are subject are peculiar to particular staples, and are noticed in their places below. But a few are very common. Much information on the subject has been collected by Mr. Baden-Powell.

Pálá or frost is very injurious if severe and not accompanied by rain, or if a west wind blows at the time. There is a saying: *girta mín pachheta pálá ; yih kirsán ká gála :* "tardy rain and frost are the husbandman's loss." It especially attacks cotton, sugarcane, gram, rape, and early wheat while in the ear.

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Diseases and enemies of plants.

Kág, kágwa or smut is produced by east winds with cloudy damp weather. It attacks wheat especially; and also *jawár* and sometimes barley. But it is, as a rule, sporadic in the two latter.

Al or *álá* is a black oily appearance upon the leaves of cotton and sugarcane. But it is also the name of a gregarious caterpillar, which especially attacks cotton, rape and sesame.

Kungi or rust is produced by the same influences which produce smut. It attacks wheat chiefly, and is exceedingly destructive.

Jackals do most harm to maize, of which they "do not leave even the bones," and to sugarcane. They also eat *methi* and safflower.

Pigs are catholic in their taste; but if they have a preference, it is for rice, *jawár*, maize and cane.

White ants eat most things, especially gram, cotton and cane. They cannot move in *dàkar*, as it is too stiff and moist for them; and plenty of water will always keep them away.

Ujála or general withering up from any reason, and *sokhá*, or withering from want of water, are of course evils common to all plants.

Sugarcane.

The principal varieties sown are *Surta* or *Sotha*, with a long, soft thick, white cane; the best of all, but somewhat delicate, and especially fancied by jackals. *Lálmi* with a hard, thin, red cane; very hardy, and will not spoil even if the cutting be long delayed; but not very productive of juice. *Merati* or *Merthi* with a thick, short, soft cane, and broad leaves: it is very productive, but requires high cultivation, and suffers from excess of rain; it is not much grown. *Pondà*, a thick sweet variety; grown near the cities for eating only, as its juice is inferior. Cane grows best in fairly stiff loam, and worst in sandy soil. It likes abundant rain, and will stand a good deal of swamping, though too much makes the juice thin. It is occasionally grown in flooded land without irrigation; but the yield is precarious. Its cultivation is far more laborious than that of any other staple. The land must be ploughed at least ten times, and worked up to the finest possible condition. The more manure given the better the yield; and it is never sown without. If the soil is impregnated with *reh*, the juice becomes watery, and yields but little sugar.

The amount of seed is fixed in the following curious manner:—As many canes as will make up a total length of 21 hands is called a *panjá* or handful. Twenty-one *panjás* are a *púli* or bundle; and 30 bundles are sown in one acre. The word *panjá*, though common, generally in the Panjáb, is not used or known in the tract in any other connection than this. The seed cane will be worth Rs. 5 to Rs. 6 per acre. The seed cane is buried in the ground till wanted next year. Generally whole canes are buried; but a custom is growing in the Khádar of using only the top 18 inches or so of the cane for this purpose, as this is the piece which makes the best seed and gives the least juice. The seed cane is cut up into *pári* or slips with two knots in each, and they are laid down a foot apart in the furrow by a man following the plough, who presses each in with his foot. The plough has a bundle of canes tied under the share to make a broad furrow. Nine men will sow an acre in a day. The *sohágga* is then passed over the field. On the first day of sowing sweetened rice is brought to the field, the women smear the outside of the vessel with it, and it

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is then distributed to the labourers. Next morning a woman puts on a necklace and walks round the field, winding thread on to a spindle. This custom is now falling into disuse. Three days afterwards they hoe the field all over with *khodúlis* and follow with the *sohágga*. This operation is repeated four times at intervals of 10 days. Ten men will work an acre in a day. The field is then watered.

The *panchha* is then given. They spread more manure, hoe it in, beat the ground with sticks to consolidate it, water, hoe, and beat, again, and so on two or three times; it taking twenty men to do an acre once over in a day. A month after this they water again, and go on hoeing and watering till the rains set in. During the rains it must be weeded once *at least;* after the rains it is watered once or oftener according to the season, and if it shows any tendency to droop, tied up into bundles (*jura*) as it grows. As soon after *Diwálí* as the cane is ripe it is cut. If it is allowed to stand too long, the flower (*nesari*) sometimes forms, and it is then useless. Cane is occasionally grown a second year from the old roots, and is then called *mánda*. The cane is cut down and dressed (*cholna*) on the spot by stripping off the leaves and cutting off the crown (*gaula*). These are given to the cattle to eat. This work, and the crushing, are done by the association or *lána* described in Chapter III (page 133), there being one pair of bullocks for every acre of cane. When the cane is brought to the press it is cut up into *ganderi*, or pieces 6 to 8 inches long. The press is started on Sunday; and an altar called *makál* is built by it, where five *ganderis* and a little of the first juice (*ras*) expressed, and 1¼ seers of the fist *gur* made are offered up, and then given to Bráhmans on the spot. The press is tended by two *peria*, who feed the press with cane, opening out the canes in the press with an iron spike or *kail*, and driving new canes well in by beating them on the top with a leather glove faced with iron (*hatarki*); two *muthiás* who drive the bullocks and hand the cane from a basket fastened on the beam to the *peria;* two *kárígars*, who look after the boiling and make the *gur;* and two *jhokas* or firemen who feed the furnace. For each twenty-four hours the *perias* get 9 seers of *gur*, and their food and tobacco; the *múthiás* get 2 seers and food; the *kárígars* 8 seers; and the firemen the same. The *kárígars* are generally *Jhìnwars* and get 2½ seers on the first day in the name of Báwa Kálu, their *Guru* or spiritual chief. A certain amount of juice and cane is also given to the workmen. The blacksmith gets ¾ of a seer, the carpenter 2 seers, and the potter ½ seer of *gur* per diem. The hire of the iron pans is from Rs. 9 to Rs. 12 each for a season.

As the juice runs out it is received in an earthen vessel (*bàha kundi*) sunk in the ground, and holding some 60 to 70 seers. A press will crush an acre of average cane in five days, working night and day. The juice is dipped out of the *kúndi* into a large pan called a *kúnd*. When the *kùnd* is full the juice is transferred to a *karàhi* or *kárahí* or *bel*, an iron evaporating pan let into the top of a furnace and is there boiled. After being similarly treated in a second evaporating pan, the inspissated juice is put to cool into a broad shallow earthen pan (*chàk*) and worked about with a flat piece of wood (*hátí*, *hàtwà*). When cool it is called *gur*, and is ladled out with a wooden spoon (*dolera*) and scraper (*musal*), and made up into balls (*bhelí*)

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weighing 4 seers each, of the shape of a cottage loaf. The first ball is given to the Bráhman at the *makál*; the others are taken to the *bania* and credited to the account. The crushed cane (*khoi*) is used to feed the fire with. The cane saved for next year's seed is buried in the corner of the field. Young sugarcane is attacked, when about a foot high, by a worm called *kansua*, especially if the east wind blows. A smut called *ál* also attacks it under the same circumstances. Mice do much harm; and also white ants and frost.

Cotton.

No varieties of cotton are recognized by the people. It grows best in stiff loam; worst in sandy soil. It is better, if possible, to grow it by the aid of rain alone, and without irrigation, after sowing at any rate, till the rains are over. The more manure the better; but it often follows sugar, when no fresh manure is given; and in the Nardak it is grown without manure. On the canal it is sown a full month earlier than elsewhere, as the ample supply of water enables them to make the land moist enough before sowing to carry it through the rains. The ground is ploughed twice and the *sohágga* used; the seeds are rubbed in cow-dung to prevent their sticking together, and sown broad-cast. When the two seed-leaves appear it is weeded, and twice again after that; the saying being—

"*Naulai nahìn dopatti*"
"*Kya chugáoye kupatti.*"

"If you don't weed when there are two leaves, you will pick nothing." When it begins to flower it especially wants water, which must be given if necessary; for if it dries, and especially if the east wind blows at the same time, the flowers fall off and the pods don't form. It generally gets watered again with the other crops which are sown among the plants.

When the pods (*tìnd*) open and the cotton is ready to pick (*chugna*), the women go round the field eating rice milk, the first mouthful of which they spit on the field towards the west. This is called *phurakna*. The first cotton picked is exchanged for its weight of salt which is prayed over and kept in the house till the picking is over. The picking is done gradually as the pods open. It is performed by the women of the house when they are not secluded; otherwise by the poor women of the village who take $\frac{1}{12}$ of the pickings, in the earlier pickings when there is plenty of cotton, and more up to $\frac{1}{8}$ as less and less remains to pick. The last gleanings are left for the poor. The cotton as picked is called *kapás*, and is passed through a small hand-mill (*charkhi*), consisting of a wooden roller revolving in contact with a very small iron roller, the latter nipping the cotton and drawing it through, and so tearing it off the seeds (*binola*) which are left on the other side. The *kapás* consists of about a third cotton and two-thirds seeds. The cotton thus ginned (*rúi*) is scutched (*pínjna, dhuńakna*) by the *pumba* or *teli* with a large double-stringed bow (*pinan, dhunaka*) hung from a flexible bamboo, the strings of which he twangs violently with a heavy plectrum of wood (*tárá*), and the vibrations toss up the filaments and form them into a fleece, leaving the dirt at the bottom. For this he takes the weight of the cotton in grain. The women spin the cotton and give it to the weaver to weave, paying him one rupee for weaving about 60 yards. After the

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cotton is picked, the cattle are turned into the field to eat the leaves, and the dried stems *(bansati, banchatti)* are cut down and used as withies for various purposes, or for fuel. The seeds are a valuable food for cattle, as they are very full of oil. Cotton is especially liable to the *àl* smut, and to attacks of caterpillars, and of a red worm in the pod.

Maize.

Two sorts of maize are grown; the *peri* or early yellow maize, and *dhauli* or late red maize. The former has the better grain, and the latter is the more productive. Maize must have plenty of water and must have at any rate a little *fresh* manure, even if sown after sugarcane. It grows best in light soils and well in sandy ones. It will not grow in very stiff soil. The ground is carefully dressed and the seed sown broadcast. It is weeded on the 10th, 22nd and 35th day after sowing, or thereabouts. It cannot go a month, and should not go more than three weeks, without water; and it is only in very good years that it need not be irrigated. If it once dries up, no after-watering will save it. A little early maize is often grown as fodder for the cattle; it produces hardly any grain. The maize is cut down and the cobs (*kùkrì*) picked off, stripped, dried in the sun, and beaten with sticks to separate the grain. The unripe cobs (*bhùta*) are often roasted and eaten. The stalks (*karbì*) are good fodder, though not good as *jawàr*. Maize suffers from a worm in the knot of the stalk, and especially from pigs and jackals.

Fine rice.

Rices are divided into two well-defined classes; the fine rices, varieties of *oryza sativa*, the grains of which cook separate, and which are known to the people under the generic name of *ziri*; and the coarse rices, varieties of *oryza glutinosa*, the grains of which agglutinate when boiled, and of which the principal sorts are *mùnji* and *sànthi*. This and the following paragraphs refer to the fine rices only. The *ziri* proper is a small rice with a short straw; the principal varieties are *ramàli* and *ràmjamàni*, the latter of which has a particularly hard fine grain. *Sunkar* and *ansàri* are coarser rices, chiefly grown where there is fear of too much water, in which case their long straw gives them an advantage. Rice grows only in stiff soil. It is usually grown in lowlying *dàkar* so as to take advantage of the drainage water; but if the water-supply is sufficient, the best rice is grown on fine stiff soil on a slope where the water is perfectly under control. The seed beds are ploughed four or five times and carefully prepared, manure is spread on them, and the seed sown broad-cast and very thickly on the top of the manure. More manure is then spread over the seeds, and the whole is watered. Four days after they are again watered, and after the fifth or sixth day, they must be kept wet till they are ready to plant out. The rice field is ploughed twice, and such manure given as can be spared. It is then flushed with some three inches of water, and a *sohàgga*, toothed if there are weeds, is driven about under water (*gòr* or *gàn dena*). If the weeds are obstinate, the plough must be used again under water. When the *sohagga* has worked up the mud into a fine pulp, *Jhìnwars* and *Chamàrs* take the seedling (*pod*) in handfuls (*júti*) and plant them one by one in the water pressing in the roots with their thumbs. An acre will take 500 to 600 *jútis* which will cost, if bought, Re. 1-4. It will take

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ten men to plant it in a day, and they get 2½ to 3 seers of grain each daily.

Fine rice.

The field is weeded once at least. At first the whole field must be kept under water continuously; for each seedling throws out five to ten new shoots, which cannot make their way unless the ground is pulpy, and it is on the abundance of these shoots that the crop depends. The water must not be more than 6 inches deep, or the shoots will be drowned before they get to the air, and it must not be changed, as it would carry away all the strength of the manure and the soil. When the ears once begin to form, the ground must be kept well wetted, but not too slushy, or the plants will fall. If the crop is wholly under water for more than four days, it dies. The reaping must be done directly the grain is ripe, or it will fall out of the ears into the water. Thus hired labour is a necessity, and the payment is 5 or 6 seers of unhusked rice. If the water is deep and the plants, as cut, have to be put on bedsteads to keep them out of the water, the reaping is slow: otherwise the same as other small cereals.

The rice is thrashed in the ordinary manner; but the grain has to be husked in the *ckal*. Standing rice is called *dhán*, as is the unhusked grain, in contradistinction to husked *cháwal*. The husking is generally done by the women of the house. If done by a labourer, he returns 18 seers of *cháwal* from every 30 seers of *dhán*, keeping about 2 seers of good rice and as much of broken bits which he will grind up and eat as bread. The rest is husk, which is useless. The straw (*puráli*) is very poor fodder, and is used largely for bedding for cattle, and for mixing with manure, or is even ploughed in fresh. But it is also given to cattle to eat. Rice suffers much from *khúd* or *kokli*, apparently aquatic larvæ or other animals that eat the young sprouts. Water birds, too, play terrible havoc with it when it is ripening. If the whole plant dries up, it is called *malain*; if the grain only, *patás* is what is the matter with it.

Coarse rice.

Coarse rice (see *supra*) is of two kinds, *múnjí* and *sánthi*. The peculiarity of the former is that it cannot be drowned out, the straw lengthening as the water deepens. It is therefore sown in spots liable to flooding. It will stand two feet deep of water; and if the ripe plant falls into the water, the grains do not fall out as they do with *zíri*. The peculiarity of *sánthi* is that it ripens within an extraordinarily short time (nominally 60 days hence its name) from the sowing; it is sown all over the Nardak, and generally wherever there is no irrigation, as the rains will usually last long enough to ripen it. Huen Tsang noticed its, quick growth with admiration when he visited the Nardak 1,500 years ago. *Sánthi* has a short straw, and does with but little water, it being sufficient if the soil is thoroughly moist after the shoots are once up. The young shoots are liable to be eaten, and if the water gets very hot they will sometimes rot; but the plant is wonderfully hardy, and when the stalks have once grown up, hardly anything hurts it. Both kinds are sown at once where they are to grow. After two or three ploughings cattle are sent in to the water to walk about and stir up the mud, or the *gán* or toothed *sohágga* is used under water. The seed is sown broadcast on the *gádal* or fine mud. No manure is

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used nor is the crop irrigated. The *puráli* or straw is better fodder than that of *zíri*, but still not good. The coarse rice forms a staple food of the people, the fine rices being sold and seldom eaten by them.

Jawár.

There are two varieties of *jawár*; the *píli* or *dhúpiri* which gives a sweet large grain, but is delicate; and the *dhaul*, which is very hardy. *Jawár* grows best in medium loam, and is not grown at all in very sandy soil. It is seldom either manured or irrigated; but it is grown on well-land in the Andarwar circle or Bángar land between the Ghagar and Suraswatí. The land is ploughed two or three times, and if very dry, a *sohágga* is passed over it. The seed is thus sown broadcast,—if grain is wanted, very sparsely, the plants growing large and strong, and yielding fine heads of grain; if fodder is the object, very thickly, the plants growing together with thin stalks, giving little grain, but an immense deal of fine sweet fodder. If sown for grain it is weeded once at least—twice, if possible; and small pulses are often sown with it. When the crop is cut, the heads (*tasrí*) are picked off and the stalks (*chari*) stacked for fodder. The finest heads are selected for seed and thrashed with sticks, and the others thrashed in the ordinary way. The seed heads are covered with a down which irritates the legs of the labourers. If the fodder crop in any field is very inferior, from late sowing or scanty rain, it is cut green, and is then called *chib*. *Jawár* suffers from worms in the *gába* or bud; and a worm also eats the stalk, which then turns red and hollow inside, and no grain forms. But the plant is exceedingly hardy; and if there is plenty of rain, hardly anything hurts it. It is said to exhaust the soil more than most other crops. Most of the bread eaten by the people during the cold weather is made of *jawár* flour.

Bájra.

There are no varieties of *bájra* recognized in the tract. In fact it is not very largely sown, but it is the chief crop in the Kaithal Bángar, and is also largely grown as a well crop in the Andarwar circle in the Chíka *parganah*. It thrives best in sandy soil, and will not grow in stiff soil. It is sown the moment the first rainfalls, as the sandy soil retains the moisture for a long time. The mode of cultivation is just the same as for *jawár*; but it is always sown exceedingly sparsely, and some small pulse is generally sown with it, and grows between the plants. The stalks are called *dándar*, and are seldom used for fodder while *charrí* (*jawár* stalks) is available. In the higher villages of Kaithal, however, the *bájra* stalks are carefully stacked and are sometimes preserved for years, and are given to the cattle chopped up with green fodder, or even with the *áta* of gram. If rainfalls on the flower (*búr*) it washes the pollen off; but hardly anything else affects it. The flour makes good bread, but is said to be heating.

Mandwa.

No varieties are recognized. It is grown in fairly stiff soil, but chiefly in the Khádar, and there only in small quantities. It is sown in seed beds carefully dressed and manured. The seedlings are then planted out in land which has been twice ploughed, and dressed with the *sohágga*. It is watered once, or twice if the rains are late, and weeded once. The heads ripen slowly, and the ripe heads are picked off and the grain beaten out. The *bhús* is very bad fodder, and is generally burnt as it stands, or grazed down. The flour is used for

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bread, but is very indigestible ; but it has the advantage that it may be eaten on fast days, as it is plucked, not reaped like other cultivated cereals. It is the *rági* of southern India. In dry seasons its cultivation as a food crop is largely increased, it being put in fields intended for *zìri* which cannot be planted out owing to the drought.

Mandwa.

No varieties are recognized. It is sown in light or sandy soil, as soon as the first rainsfall. It will not grow in stiff soil ; and in the Nardak, where there is no sandy soil, is grown chiefly for fodder, the yield of grain being insignificant. The ground is ploughed twice over, and the seed sown broadcast, and neither weeded, manured, nor irrigated. It is often sown with *jawár* or *bájra*. The *bhús* of this and of *urad* and *múng* is the best of all fodder. The seeds of all of them, when husked and split, are called *dàl*, and eaten largely by the people, generally boiled. If the east winds blow when it is flowering, it yields but little grain ; otherwise it is a very hardy plant.

Moth.

The remarks on *moth* apply to *urad*, except that it will grow in stiff soil also, and is generally sown alone. The *dàl* is of the finest description.

Urad.

The remarks on *moth* apply to *mùng*, except that it is almost *always* sown and reaped with *jawár* or *bájra*. The *bhús* is not nearly so good as that of *moth* or *urad*, but is still very good indeed.

Múng.

Gawanr is a pulse cultivated in much the same manner as those above mentioned. It is grown for cattle only, the seeds producing flatulence, and having to be given cautiously even to cattle. The *bhùs* is worthless ; but the green plant is cut and chopped up and given to bullocks. It grows only in light soil, and is sown with the first rains, and always alone.

Gawanr.

No varieties of *til* are recognized. It must be grown in good stiff soil ; and the soil *must* be new to give a good crop, which is probably the reason why it is chiefly cultivated in the Nardak where virgin soil abounds. It is generally sown with *jawár* or *urad* ; and the mode of cultivation is the same as that of the latter. When the plants are cut, they are put up on end to dry. As they dry, the pods open, and the seed is then shaken out. The stems (*dànsra*) are of no use. The seed is taken to the oilman, who returns two-fifths of the weight in oil, keeping the oil-cake (*khal*) which he sells. The oil is good for burning, and is the best of all oils for purposes of the kitchen. *Til* is very subject to attacks by caterpillars (*àl*). And if it once dries up it never recovers it. It is, however, never irrigated.

Til.

San * is sown, seed by seed, on the edges of the sugar-cane field, or in rows among the cotton, and takes its chance with them. It is cut in Kátik. The plants dry for two or three days, and are then, or when wanted, weighted down under water in the pond or in a well. They soak for 40 to 60 days in the cold, or 20 days in the hot weather. The fibre is then stripped off, washed thoroughly, dried, and is ready for use. The sticks are called *sankokra*, and are useless. The fibre is especially used for the *lào* of the well, as it is very strong, and stands water without rotting. It is also used for ropes in general ; but does not wear so well as *sanì*.

San.

* Mr. Baden-Powell, in his Panjáb Products, warns the reader against confusing *san* and *sanì* He has, however, exchanged their names. *Sanì* is the leguminous Crotalaria, and *san* the malvaceous Hibiscus.

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Sanî.

Sanî is sown in the best of soils only. The land is ploughed once, the seed is sown broadcast, and no further trouble is taken with it. It is sown in Sárh and cut in Kátik. It is dried and then steeped for 8 to 10 days in the cold, or half that time in the hot weather. The stems are then washed, dried, and put away whole, the fibre being stripped off as wanted. It makes the best ropes of all, but will not stand constant wetting. The sticks are called *sunki*, and are useless. There does not seem to be the same prejudice in Karnál against the cultivation of *sanî* that there is in the adjoining *tahsíl* of Pipli, where no *zamindár* of good caste will sow it.

Wheat.

Wheat forms the chief spring staple of the irrigated portions of the tract. The principal varieties are the *píla*, the best of all wheats; *kunjá*, with a long straw, and full ear, of somewhat inferior grain; *jogia*, a short red wheat of good quality; and *lál* a very hardy and productive wheat of good quality, which does with less water than the others, and is sown in the inferior soils and in the unirrigated portions of the tract. These are all bearded, wheat without awns *(mùndla)* being but little cultivated.

Wheat will grow in almost any soil, except the very stiffest where barley takes its place; and if there are good Christmas rains (*mahàwat*) a fair crop may be got without irrigation. It is not grown as an unirrigated crop in the Indrí Nardak nor anywhere in Kaithal except in the trans-Ghagar villages north of Chíka. The soil is worked up in the most careful manner during the rains; and the oftener it is ploughed the better. It is generally sown after cane or cotton, when no fresh manure is added; otherwise manure is almost always given, and the *Màlis* and *Ráins* use a top-dressing of *rehi* of some 12 or 15 maunds to the acre, when the plant is six inches to a foot high. The field is dressed laboriously with the *sohàgga*, and the seed sown broadcast. It is watered 20 to 30 days after sowing, according to the original wetness of the soil; and then, at intervals of a month, three times more on the canal, four times more in the Khádar. It is weeded after the first watering; and once again, in the Khádar at any rate, where the *píázis* are numerous. It ripens suddenly; and hired labour is generally needed for the harvest, the labourers getting 5 to 7 seers a day in the ear. The *bhùs* is very fine fodder. The grain of wheat alone is not much eaten, it going to the *Banià*, while the people eat the mixed grains mentioned below. Wheat is very liable to smut, often called *dhaunchi* in this case, and rust. Sometimes the east wind in dull weather will make the ears curl and twist up; and this is called *maroria*. Late frost does it much harm if it has been sown so early that the ear is then forming, but not otherwise.

Barley.

No varieties are recognised. It is the hardiest of all the small cereals, will grow in any sort of soil, and will stand either excess or deficiency of water. It may be sown later, too, than any other of the spring crops; and men may be seen sowing barley at the very end of the season on the edges of a swamp which were still too wet to plough, with the intention of ploughing it in as the soil dried. The limit to the sowing is expressed by the proverb, "*boya Po, diya kho*," "sow in Po, and you lose your seed." The field is ploughed two to four times, the *sohàgga* is passed over it, and the seed sown broadcast.

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Manure is given if there is any to spare, which there seldom is ; and water is given if the needs of the other crops allow of it. It is seldom weeded unless the weeds are very bad. The grain is much used by the people for bread ; and the *bhùs* is admirable fodder, though not so good as that of wheat. Barley sometimes suffers slightly from smut ; but nothing else seem, to touch it, wind and weather of course excepted.

Barley.

No varieties of gram are recognized. It grows best in the stiffest soil, and hardly at all in sandy soils. It is generally sown broadcast *before* ploughing, and is often mixed with wheat or barley. In the very stiff rice fields the *dákar* is ploughed up once after the rice is cut, so as to break it up into large hard clods, in the crevices between which the gram grows. Lighter land is ploughed two or three times, and is sown more sparsely than stiff soil. No manure is used ; and irrigation rots the plants, so that the soil should be very moist for sowing. If this is the case, and the Christmas rains are good, a fine crop is almost certain. Gram is never weeded. The grain is used as *dál*, and for bread ; often in the later case mixed with cereals. The *bhús* is admirable fodder. The young plant is used as a vegetable, the green seed is eaten raw, and at harvest time the plant is thrown on to a fire of grass, and the roasted seeds (*hole*) rubbed out and eaten. Either the phosphoric acid which the leaves deposit, or the down with which they are clad, is exceedingly irritating to the skin. The plant is exceedingly sensitive to frost ; and a green worm called *sundí* attacks the seed, especially if the Christmas rains are late so that the ground is damp when the seed is forming.

Gram.

Masúr is a small pulse, growing chiefly in the very light soils of the Khádar. The ground is ploughed twice and dressed, and the seed sown broadcast, often mixed with barley. No manure is used ; but it is irrigated if the labour can be spared. The grain makes very good *dál* ; but the yield of fodder is insignificant.

Masúr or *Masri*.

There are two kinds of *sarson* grown in the tract ; the black in the Nardak, which is more hardy but less productive, and the yellow in the less arid parts. It is grown chiefly for its oil, though the green plant is much used as a vegetable, and as green meat for cattle. It is generally grown together with wheat or gram, often in rows (*ár*) along the field, and takes its chance with them. If sown separately, it is neither weeded nor manured, and seldom watered. It ripens in Phágan, the earliest of all the *rabi* crops except *toria* ; and the plants are picked out from the crop with which they are growing. The seed is called *bhakar*, and yields an oil which is the finest of all oils for burning, and is also good for cooking purposes, though inferior in this respect to that of *til*. The oilmen return one-third of the weight of seed in oil if yellow, and one-fourth if black, and keep the oil-cake. The *bhús* is called *túri*, and is worthless. The plant is subject to the attacks of a gregarious red caterpillar (*ál*), and is very sensitive to frost.

Sarson.

Toria is an insignificant oil-seed, one of the *brassicas*, deriving its value from the rapidity with which it ripens. It is sown in Bhádon and ripens in Po; coming in just when oil is dear, and before the other spring oil seeds have been reaped. Hence the proverb—

Toria.

Toria hal joria, urdon chhoti bel,
Bhawerí kitna bhagle, pakunga tere gel.

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Toria

"The plough is yoked for the *toria*, when the *urad* creepers are already long. But hasten a-you will, I will ripen along with you." The land is ploughed up twice after the rains, and the seed sown broadcast. It is neither weeded, irrigated, nor manured; but it is, like the other *brassicas*, often plucked as green meat for cattle. The oil is good; the *bhús* valueless.

Methi.

Methi is a trefoil, used only as green fodder for cattle, or as a pot herb. It is generally sown, sometimes with a little gram or *sarson* mixed with it, between the cotton plants; more being sown in stiff than in light soil. Before the pods open, the ground is grubbed up with a hoe and the *methi* sown. It is watered the day after; and again at intervals of 20 days or less, as it needs a great deal of moisture. It grows very thick and close, and is cut green. It only yields one cutting.

Tobacco.

Tobacco is very generally grown in the villages, but mostly for private consumption only, except where local peculiarities are especially favourable. The *desi* variety is almost exclusively cultivated, of which *bugdi*, *surnáli*, and *khajúri* are forms distinguished by the shape of the leaf. The plant grows best in a nice loamy soil, neither too stiff nor too open. A *slight* saline impregnation rather improves the plant; and the water of bitter wells, or of the dirty village ponds, is best. Canal water is too pure. There is a well in the village of Phúrlak, the tobacco of which is celebrated throughout the district. The seed is scarcely ever sown by the villagers, who obtain the young seedlings from the market gardeners of the towns, paying Re. 1-4 for enough to plant an acre. The land is ploughed 8 or 10 times, dressed most carefully, and laid out in ridges some 2 inches high and eight inches apart, the seedlings being planted half way up the ridge on either side alternately and about 8 inches apart; for if water lies about the stem, it injures the plant. This is done in Mágh or Phágan. They are then hand-watered with manure dissolved in water. Soiled manure is generally used as a top-dressing, as less is thus required. The dung of goats and sheep is the best, and old dry cow-dung mixed with ashes. The field is watered every 10 days or so; and the hoe is then freely used, so as to keep the earth about the roots open and the weeds removed. As the leaves grow they are sprinkled with *reh* or ashes to keep off insects and improve the flavour; and the flower-bearing pedicles (*gol*) are nipped off as fast as they appear. The plant is ready to cut in Jet or Sárh. The whole plant is cut in the morning, and left in the field for 24 hours to dry. Next day they are piled up and left to dry further. A hole is then dug and the plants are packed into it, covered up with *dhàk* or *ák* leaves, and left to ferment for five to ten days. The leaves (*pát*) are then stripped and either tied up into hands (*júti*) or twisted into a thick rope. They, are, if necessary, further fermented; and are finally dried and kept for use. When tobacco is wanted, the leaves are cut up and powdered with an equal weight of *gur* in a mortar. After the plant has been cut, leaves sprout from the stump, and are picked and used by the poorer classes.

Karar.

Karar or safflower is usually sown very sparsely with gram or on the edges of the fields, seldom by itself. Only small quantities are sown. The soil requires little preparation and no further care. When the flowers open, the women pick out the petals; three days

later they report the operation; and again a third time after the same interval. If hired they take a quarter of the picking as their wages. The petals are bruised the same day in a morter, rolled between the hands, and pressed slightly into a cake. Next day they are rolled again, and then spread in the sun for two days to dry, or still better, one day in the sun and two days in the shade. One seer of petals will give a quarter of seer of dry dye. Any delay in the preparation injures the dye. The dry dye is called *Kasumbh*, and is the yellowish red colour with which the clothes of the village women are ordinarily dyed. The dyer (*nilgar*) has the cloth and dye brought to him, retains one-fifth of the dye as a perquisite, and is also paid for his trouble. A bitter oil is expressed from the seeds, which is used for burning only. Forty seers of seed will give 3½ seers of oil.

Karar.

Mixed crops.

The mixed crops proper are confined to the spring harvest, for the small pulses so commonly grown among the huge millets in the autumn are reaped and thrashed separately. In the spring, however, mixed gram and barley (*jauchani*), wheat and gram (*gochani*), wheat and barley (*goji*), and all three mixed (*berra*), are commonly sown and reaped together, especially the two former. This custom has brought on the Indian cultivator much very undeserved hard language. It is true that the mixed grains have no export value; but then he does not grow them for export, or even, as a rule, for sale. In one village the people complained that their *Banias*, to whom they were in debt, would not let them grow mixed grains. The peasant devotes his best soil, his manured and irrigated fields, sown at the proper season, and when neither too wet nor too dry, to the single grains which he will sell to his banker. In the remaining land he grows mixed grains which he eats himself, liking the varied flavour, and especially finding the nitrogenous pulses an indispensable substitute for the animal food which religion or poverty forbids to him. Besides this, the three crops which are sown together flourish under different circumstances; and a season which destroys one will very likely suit the other, and so gives a fair yield in the end. If it is rather late to sow gram alone, he sows gram and wheat; and if the soil appears very wet, he will sow gram and barley. The damp will suit the barley, while if there are no Christmas rains it will save the gram. The frost which will kill the gram will spare the others; while the dew on the gram leaves will help the wheat, and the wheat and barley will shelter the young gram from the sun.

Rotation of crops.

Such rules as are observed by the people regarding the rotation of crops are, of course, founded upon experience, and not upon scientific knowledge of crop-foods and soils. But they have their reasons for them. The soil in which the spring crops are grown is called *dathoi* or *bhadwàr*, according as it has or has not borne a crop in the autumn immediately preceding; the former name from *datha* a stalk, as the stalks are generally left in the hurriedly prepared ground; the latter from Bhádon, the month in which they begin to plough the field. In single cropped land the chief consideration is the full utilisation of manure, care being taken to sow in land which has been heavily manured, and which will not have been exhausted by the single crop, only such valuable crops as must have manure to bring them to perfection. In double cropped land the nature of the crop to follow is chiefly determined by the date at

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Rotation of crops.

which the autumn crop is cut, and the interval thus afforded for the preparation of the soil. Thus maize, which is cut early and always manured, is generally followed by wheat. Cotton is, for the same reasons, usually followed by cane, which is also often sown after *jawár*, manure being added. Cotton is often sown after cane or wheat; and wheat will often follow cotton or cane, with a season's interval. *Jawàr*, which is very exhausting, is seldom followed by any spring crop except gram. Rice, except in Indrí where nothing but rice is usually sown in rice land, is almost always followed by gram or mixed grains; the stiff wet soil being in many cases incapable of producing anything else, while the pulse following the cereal does not seem to suffer, judging from the crops often produced. And in the swampy canal villages, where the whole area is often too wet to grow anything but rice, barley is perforce sown in every field in the spring, not because there is much hope of a tolerable grain crop in the swampy fields, but because some sort of fodder *must* be had, and rice straw is of but little use. Manured land is never allowed to rest more than one season at a time, while the highly-manured land close to the town will yield, with the help of vegetables and *china*, three or even four crops in a year. Even unmanured land is not often given more than one season's fallow, *jawár* and gram being commonly grown year after year without intermission. But, except in rice land and swampy villages, land is seldom double cropped without manure.

Jawár, cotton, wheat, sugar-cane and *mandwa* are considered the most exhausting crops. Very little fallow is left if the year is a good one; while in a bad season all the high lands which are without irrigation are left unsown. Irrigated land is seldom left fallow unless the owner has more land irrigable by his well than it can water in one year. However in Indrí Bángar and Nardak very little of the well land bears more than an average of one crop each year. There the almost universal system is by a two-years course. The same is true of some well-lands in Kaithal. For example, in the Andarwar circle (Chíka) the well-lands are divided into two blocks. In the first year block A is sown with an autumn crop and block B with a spring crop. In the second year block A is sown with a spring crop and an autumn crop is taken from block B. That is every field gives two crops' running spring and autumn, and then is left fallow for two harvests. Manured land is practically allowed *no* fallows. Repeated ploughing is chiefly used for irrigated land, in which wheat, cotton, sugar-cane, or maize is to be sown, and for unirrigated land, which is to grow *jawàr*. The use of manure has already been discussed at pages 161, 162.

Average yield. Production and consumption of food grains.

Table No. XXI shows the estimated average yield in lbs. per acre of each of the principal staples as shown in the Administration Report of 1881-82, while the table on the opposite page gives the more detailed estimates which were used by Mr. Ibbetson to calculate the value of the gross produce for purposes of assessment in the Settlement of 1880. The average consumption of food per head has already been noticed at page 69. The total consumption of food grains by the population of the district as estimated in 1878 for the purposes of the Famine Report

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Average yield. Production and consumption of food grains.

Grain.	Agriculturists.	Non-agriculturists.	Total.
Wheat ..	613,432	794,823	1,408,255
Inferior grains..	788,699	430,530	1,219,229
Pulses ..	788,699	430,530	1,219,229
Total ..	2,190,830	1,655,883	3,146,713

is shown in maunds in the margin. The figures are based upon an estimated population of 6,10,927 souls. On the other hand, the average consumption per head is believed to have been over estimated. A rough estimate of the total production, exports and imports of food grains was also framed at the same time; and it was stated (page 151, Famine Report) that some nine *lakhs* of maunds, principally wheat, were annually exported to Dehli and Ambála and about 312,000 maunds of wheat, barley, gram; *bájra* and smaller pulses imported from Patiálá and Bhiwáni.

Table of produce estimate.

	IRRIGATED.					UNIRRIGATED.					MOIST.	TOTAL.				
		Bangar		Khadar.			Bangar.		Khadar.				Bangar.		Khadar.	
	Nardak.	Karnal.	Panipat.	Karnal.	Panipat.	Nardak	Karnal.	Panipat.	Karnal.	Panipat.	Karnal Khadar.	Nardak.	Karnal.	Panipat.	Karnal.	Panipat.
Cotton ..	186	230	230	239	352	88	125	161	134	215	144	123	224	270	228	340
Sugarcane ..	..	625	843	702	887	..	347	450	354	400	250	.	600	843	689	828
Maize ..	392	402	..	510	612	155	181	..	208	208	127	299	478	..	467	555
Fine rice ..	342	571	574	436	461	178	300	390	303	347	..	231	565	571	482	429
Coarse rice ..	320	324	..	340	..	142	238	..	259	..	270	147	322	..	323	..
Jawar ..	159	163	186	157	177	113	145	144	112	107	107	126	155	166	138	152
Bajra ..	160	162	163	123	13[illegible]	113	129	130	114	112	109	118	140	141	117	118
Moth ..	..	98	96	78	81	..	80	73	56	56	54	..	84	84	67	70
Wheat ..	414	496	598	363	489	218	290	322	259	259	192	306	490	598	382	454
Gram ..	483	546	600	390	440	225	374	447	310	374	336	240	476	563	360	418
Barley ..	..	475	482	351	..	..	320	351	245	..	189	..	454	479	283	..
Wheat and gram ..	..	421	495	386	443	..	356	380	250	290	227	..	401	470	347	407
Barley and gram ..	341	366	..	380	..	204	301	..	261	..	244	210	347	..	305	..
Masur ..	.	..	..	104	..	..	..	..	91	..	63	..	..	..	75	..

Arboriculture and forests.

Table No. XVII shows the whole area of waste land which is under the management of the Forest Department. The principal trees and shrubs have already been noticed in Chapter I, (pages 15 to 19).

SECTION B.—LIVE-STOCK.

Live-stock.

Table No. XXII, shows the live-stock of the district as returned in the Administration Reports for various periods. The employment of cattle in agriculture and the fodders used have already been described at page 161. In a tract like the Nardak, where Rájpúts predominate, and only a small portion of the area is under the plough, it will be readily understood that cattle-farming forms no unimportant element in the means of subsistence. In the large Rájpút villages, it may, in fact, be said that cultivation holds an entirely subsidiary position.

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Live-stock.

The people look up on the manual labour of agriculture as to some extent derogatory, while the proudest of them thinks it no shame to tend his herds; the yield of their fields is eminently precarious, and only follows on the expenditure of labour and capital, while their cattle yield *ghí* and calves in the exercise of their natural functions. Thus the Nardak Rájpút's chief agricultural care is to secure a plentiful supply of fodder from his *jawár* fields. The general area of the tract is a high flat slope from which the rain water runs off almost as fast as it falls; and what scanty grass does spring up, is eaten at once before it disappears under the burning heat of the sun. But every village is situated on a drainage line of greater or less magnitude; and in the hollows, where the earth is protected by the shadow of thick *dhák* jungle, grass grows with great luxuriance, and is both pastured and cut and stored for use in the hot weather. The hedges, too, which surround the cultivation, generally enclose a good deal of uncultivated land, and large blocks are often fenced off as grass preserves (*bír*). In these spots a plentiful crop of grass is to be found in fairly favourable seasons. Notwithstanding this, by the beginning of April the supply begins to run short, the pools in the jungle have dried up, and the mass of the cattle are taken away in large herds (*gol*) either to the *dúns* of the Siwáliks, or, where the existence of friendly relations with the villagers renders it possible, to the riverain and canal villages. As soon as the first rains promise a supply of grass and water, these cattle return, accompanied by the herds of the canal and riverain tracts which the rising floods have driven from their homes, and often by those of the arid tracts of Hariána, where the season has been less favourable. Thus the cattle-farming capacity of individual villages depends not so much upon the actual area of pasture land as upon the extent to which that area is occupied by hollows and drainage lines. Many villages are compelled to fall back for pasture upon neighbours who have a smaller but more favourably situated area; and in some villages considerable sums are yearly paid as grazing fees to other communities. Besides cattle, a large number of sheep and goats are pastured in the tract, chiefly by the non-proprietary community.

Horned cattle.

Kine or *dhenú*, consisting of buffaloes and cows, are kept by almost all villagers, and their milk furnishes the only animal food which they, as a rule, enjoy. In the Nardak, where pasture is extensive and agricultural produce precarious, they form the mainstay of the people; while in every village the surplus *ghí* produced forms a substantial addition to their income. Of the two kinds of kine the buffalo is infinitely the more valuable. If a villager loses his cow, he only grumbles a little harder than usual; if he loses his buffalo, he sits down and cries. A female buffalo (*bhains*) is worth Rs. 40 to Rs. 100. After four years old she will give a calf every 18 months, to the number of seven or eight or even more. The heifers (*jhotri, katri*) are not sold; but the steers (*jhotra, katru*) are gelt and sold when some two years old to be used as pack-animals. They are called *jhota* when grown up. The buffalo eats all the coarse swamp grasses which the cow will not touch, and which would otherwise be useless; and as long as they have a daily bath in the pond, are hardy animals. The cow (*gái*) is worth from Rs. 10 upwards. After four

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years old she will calve once in every twelve to eighteen months on the average, generally in Chet or Baisákh. She will calve about six times. The steers (*bahra*, *bachhra*) are gelt and kept for the plough as oxen (*balad*), or sold at three years old for from Rs. 15 to Rs. 20. The heifers (*bahri*, *bachri*) are seldom sold unless they drop their young. No care is taken about the breeding of oxen, the bulls (*bijar*, *khaggar*) being simply the young bull calves let go on the occasion of a death. The buffalo bull (*bhainsa*) is sometimes chosen by a group of villages and let loose; but it is often let loose in the name of *Devi* or of the *Pir*, and these latter may be of any sort of breeding. Both sorts of bulls roam about the jungles and mingle with the herds at pasture. To give the bull to a cow is *dhanána*; to a buffalo *phalna*; to calve is *biàna*.

Grazing and food.

The cattle are grazed in herds (*gol*) by herdsmen (*pálí*), usually boys and lads except in the Rájpút tract, where men go also for fear of attempt at theft. In the cold weather they go out as soon as the dew is off the grass, and return at sunset. In the hot weather they graze from dawn till 11 A. M. and from 2 till evening, returning to the village to drink in the middle of the day. In the rains they also graze for three hours before dawn, returning to the village to be milked. This last is called *pasar*, and has a great effect upon the milk, the cattle grazing more freely when not teased by heat and flies. The plough cattle often go for *pasar* both before dawn and after sunset in the rains. When a cow is in milk, she gets about half a seer of grain and if there is no good grazing, 5 seers of fodder daily; a buffalo in milk gets twice as much. The kinds of fodder have been described already in Section A of this Chapter at page 161.

The principal kinds of grass have been described in Chapter I. During the rains a splendid crop springs up, and all the ponds fill with water. In the Nardak the villages fence off grass-preserves (*bír*) and cut and stack the grass for hay when it is ripe. During the rains and cold weather large herds come, if the season is a good one, from the sandy Bángar, and settle down in the Nardak jungles, leasing blocks of pasture, or paying so much per head. By the end of the cold weather the grass is all eaten and the ponds dry; and the cattle have to leave the Nardak for the canal and riverain tracts, or for the valleys of the Siwáliks. On the other hand, the cattle of the canal and Khádar tracts are in many parts driven out of their villages by the floods in the rainy season, and have to take refuge in the higher parts of the country.

Milk and butter.

A buffalo will give 6 to 10 seers of milk daily for eight months, and each seer will make a *chitánk* of *ghí*; a cow will yield 3 to 5 seers daily for five or six months, but each seer will only produce half a *chitánk* of *ghí*. The first milk after calving is offered to *Bhúmia* and the Snake-god, or sometimes given to the beast herself to drink; otherwise the milk will turn bloody. The calf has all the milk for 10 days; on the 11th it has a rope put round its neck, and the owner begins to use the milk. The milk is boiled at night in a vessel called *karhauni*, and a little sour curd (*dahi*) put in to turn it, which is called *jamána*. Next morning the milk is turned into a *jhaulí* or churn, and the churn staff (*reyi*, *ravi*) made of *kair* wood with four arms at the bottom, is put in, and a cover (*chákra*) put on through which the *reyi*

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passes. A string (*neta*) is wound round the staff, and it is spun alternately each way by pulling the ends of the string. This churns (*bilona*) the milk. The butter comes in little globules (*rawa*), and is skimmed off and put into a vessel. Its collective name is *tíndi* or *naini*, and the butter-milk is called *lhasi*, and is drunk. The butter is then melted, and the water with its impurities (*chhàch*) being strained off, *ghì* remains. This is put into a vessel called *bára* till enough is collected to take to the *Baniá*, or as they express it, to change the *bára*. The word is probably from *Bár*, Saturday, as no *ghí* must be made from the Sunday's milk.

Diseases of cattle.

The chief diseases to which cattle are subject are as follows :—

Garar or *garwa*.—This is the most fatal of all, especially to buffaloes. The mouth and nose run, the tongue and throat swell, the papillæ of the tongue stand erect, and the animal dies in a few hours, apparently suffocated. *Rora* or *paira*.—The feet and mouth swell and fester, and colic and diarrhœa are present. The animal generally recovers. *Mànd* is dysentery, which generally kills the patient. *Jar*.—In the rains when the grass is young the cattle get giddy and fall down, especially buffaloes. It is seldom fatal. The *reh* of the canal tract gives the cattle glandular affections and diarrhœa, and pulls them down ; they are therefore sent after a year or two to the highlands to recruit, which they do in a few months. *Rora* is used also for any epidemic cattle plague. When it attacks a village, the first animal that dies of it is buried instead of being given to the *Chamàrs*, and water is sprinkled on the track (*ghasît*) along which the corpse was dragged. The beam of a plough (*hàlis* is buried upside down in the gate of the village with the top sticking out, and a charm (*totka*) consisting of a garland of *siras* or mango leaves, with a mud platter inscribed with mystic words by a *faqír*, is hung across, so that the cattle must pass under it. If an animal gets lame, an oval mark with a cross in it, or Solomon's seal, or Shiv's trident, or the old Aryan mark of the need-fire, in general shape like the Manx arms, is branded on the limb affected. A *nàla* or piece of the coloured thread used in religious ceremonies is a powerful charm if tied round the leg of the animal. All cattle that die on Saturday or Sunday are buried instead of being given to the *Chamàrs*.

Traffic in cattle.

The cattle-dealers of the tract are Banjárás, the commissariat agents of the old Emperors since the time of the Lodís. These men come up from the east in the cold weather with letters of credit to large amounts, buy up all the young steers, and take them back again for sale. Of course a good deal of local traffic goes on also, and the people will go great distances to get good animals. The best cattle come from Hissár and its neighbourhood. Ownership is transferred by puting the rope by which the beast is tied into the purchaser's hand, and the latter giving Re. 1 or so of the price as *sàyi* or earnest-money. Milch cattle are sometimes taken on trial for a day or two ; but if the seller wishes to settle the matter at once, he flings his stick on the ground in front of the beast, and if the buyer takes the animal over the stick, the bargain is irrevocable. No Hindu will sell *gokru* or *goká*, which includes everything born of a cow, to a Musalmán, for fear it should go to the butcher. And no villager will buy or sell cattle, leather, or *ghì* on Saturday or Sunday,

Traffic in cattle.

or on the great *Diwáli*. When he has bought a beast, he will watch to see whether it dungs or stales first; the former is a good omen, the latter a bad one. He will also make obeisance to the first dung. A buffalo calf born in Magh is unlucky, and must be given to the Gújráti and not sold.

Sheep and goats.

Considerable flocks (*rewar*) of these animals are kept in the Nardak, and in such Khádar villages as have large pastures. Where the villagers are Musalmáns, the flocks sometimes belong to them; but they are more commonly the property of the city butchers, who send them out to graze in the villages. The sheep are all of the ordinary black small-tailed breed. They are generally tended by Gadariás who make blankets of the wool. The dung is used for manuring tobacco, but is not much valued, and never bought.

Horses.

There are singularly few mares in the tract, and what there are, are as a rule, poor. There are three Government stallions kept at Múnak; and the stud stallions serve branded mares free. But the local breed is not good; and in fact it is only the richer headmen and notables that keep a horse at all. A foal dropped in the day time is so unlucky that nobody would knowingly buy it; and it should have one ear cut at once, so that a purchaser may not be deceived. The expression used for selling a horse is "to marry" it (*shádi karna*).

Other animals.

Pigs (*bad*) are kept in large quantities by the sweepers in the villages, and the Khatíks in the town. The Karnál breed of pigs, which is a very fine one, dates from the time of the old cantonments; and large droves of "very superior and strictly home-bred pigs" may be seen constantly going from Karnál, where they have already attained a considerable age, and acquired the local tastes of their race. Donkeys are kept solely by potters, and do all the petty village carriage. There are many of them in every village. The sweepers of almost every village keep fowls in some quantities.

Government breeding operations.

Horse-breeding operations were introduced in the Karnál district under the Stud Department in 1853. Since the abolition of the Home Stud in 1876 the operations have been carried on under the Superintendent of the Horse-breeding Operations, North-Western Provinces. Four stallion stands have existed under this department, *viz.*, Karnál itself, principally consisting of the private stud of Major-General B. Parrott, Múnak, Kohand and Basdhárá. Múnak stand was first established in 1861 under the Stud Department, and was, it is reported, at one time a large stand requiring the services of four or five stallions, and having a register of between three and four hundred mares. Years of famine and scarcity, together with other causes, tended, however, to reduce the number of mares considerably; so that in 1877, on the first visit to the stand by the Assistant Superintendent of Horse-breeding Operations, only 47 mares were branded. On account of the paucity of mares, and as the stallions were either badly cared for or the climate unsuitable for them, the stand was abolished in June 1879, the mares being transferred to the Kohand and Basdhárá stands.

Kohand stand.—The precise date of the establishment of this stand under the Stud Department is not known, but it is believed it was at one time closed and reopened again in 1871, when some of the Múnak stallions were removed there, so as to add to the convenience

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Live-Stock.

Government breeding operations.

of breeders living at a distance from Múnak. The Assistant Superintendent visited the stand in 1877, when only 17 mares came forward for branding ; and as only 6 mares were branded in the four following years, the stand was closed in June 1882 as being unproductive, the mares being transferred to the Basdhárá stand.

Basdhárá stand was established in 1871, and looked upon by the Stud Department as an offshoot of Múnak. The mares numbered in 1876 about 98 ; but the Assistant Superintendent, on visiting the stand for the first time in 1877, only succeeded in branding 40. The number of branded mares, however, has since then increased to 102, and hopes are entertained of still further improvement.

Basdhárá is the only stand in the district at which mule-breeding has been attempted. A donkey stallion was standing there from September 1879 to February 1881, during which time only 12 mares were covered ; the stallion was consequently removed. Another attempt is, however, now being made to introduce the industry, and it is hoped with more prospects of success. A donkey stallion was again given to the stand in January 1883 ; 26 mares have been covered ; mares are not being branded for mule-breeding, as there is no restriction as to soundness, age, size or otherwise regarding the services of a donkey stallion.

The Government stallions at present located in this district are "Mulciber" T. B. E. at Karnál ; "Performer," Norfolk trotter, at Basdhárá ; and a Persian donkey stallion at Basdhárá. Castration, like mule-breeding, shows signs of becoming popular. The year 1881-82 may be said to be the first year for which any return can be shown ; in that year 3 colts were castrated ; in 1882-83 the number rose to 18. There is a Government *salútri* whose duty it is to castrate any colt or entire horse he may be called upon to operate on in this district ; but as he has also part of the Sahárانpur district to attend to, as well as to periodically visit the stallion stables in his circle, he cannot devote the whole of his time to castration work in the Karnál district.

With regard to the rearing of young stock by the breeders, it is reported that they prefer selling them to dealers as youngsters. The number of remounts supplied from this district is not known ; but it is reported that about 40 and 50 colts and fillies are annually sold to dealers ; and as they change hands, it is difficult to say how many of these may have been purchased by the Military authorities as remounts. General Parrott has, however, sold 17 from his stud for army purposes. No horse fairs are held in the Karnál district.

Karnál branch cattle farm.

On the abolition of the late Home Farm Stud Depôt the lands and buildings belonging to it were transferred to the Hissár Farm in December 1876 as an auxiliary farm, for the purpose of sending a portion of the Hissár Farm cattle there in seasons of drought at Hissár and in cases of emergencies, *i. e.*, in cases of any epidemic or sickness breaking out among the cattle at Hissár. The lands now occupied by the farm at Karnál consist of 2,128 acres, and are situated to the north and north-west of the town of Karnál. The natural produce consists principally of *dúb* grass and one or two other kinds of coarse and inferior grasses and *kìkar* trees ; with the latter the *bìrs* or grazing lands are overrun, and from this fact it would

appear that this forest plant is indigenous to the soil. Generally a thousand head of cattle, consisting of young and growing stock, are kept at this farm under charge of a European Overseer.

Karnál stud.

On the abolition of the Government Home Stud in 1876, some of the buildings and lands were made over to General Parrott, the Superintendent. Some of the mares were sold to him, Government stallions were placed under his charge, and he set on foot what appears to be an exceedingly promising experiment in horse-breeding. He has kindly furnished the following account of his stud:—

"I commenced horse-breeding operations at Karnál in November 1876 with thirty mares, now increased to thirty-nine. One hundred and thirty foals have been dropped up to date, and the casualties have been nine, four of them from snake-bites. The stock are reared on the liberty system, and are never groomed or clothed until three years old. Several of my stock are on the turf, and two of them, namely, "Mary Queen" and "Avenger," performed well during the past racing season. Two others were awarded first prises for country-breds at Calcutta and Lahore. In addition to 'Lord in Waiting' given to me by Government, two other thorough-bred English stallions stand at Karnál under my charge to cover my mares and any private or *zemindàri* ones arriving to be served."

SECTION C.—OCCUPATIONS, INDUSTRIES AND COMMERCE.

Occupations of the people.

Table No. XXIII shows the principal occupations followed by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reason explained in the Census Report; and they must be taken subject to limitations which are given in some detail in Part II, Chapter VIII of the same Report. The figures in Table No. XXIII refer only to the population of 15 years of age and over. The figures in the margin show the distribution of the whole population into agricultural and non-agricultural, calculated on the assumption that the number of women and children dependent upon each male of over 15 years of age is the same, whatever his occupation. These figures, however, include as agricultural only such part of the population as are agriculturists pure and simple; and exclude not only the considerable number who combine agriculture with other occupations, but also the much larger number who depend in great measure for their livelihood upon the yield of agricultural operations. More detailed figures for the occupations of both males and females will be found at pages 69 to 78 of Table No. XIIA, and in Table No. XIIB of the Census Report of 1881.

Population	Towns.	Villages.
Agricultural	16,916	314,880
Non agricultural	61,412	229,413
Total	78,328	544,293

The following sketch of agricultural occupations is taken from the District Census Report of 1881. More detailed information will be found in the Section on Tenures (Chapter III Section E.)

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Occupations, Industries and Commerce.

Agricultural occupations.

"The agricultural system is that of a peasant proprietary, supplemented by a tenantry of about ¼ of the numbers of the proprietors, and differing in no material degree from them either in position, resources, or the extent of their holdings. Paying rent is not absolutely unknown, but it is rare; and the rent when it exists is not often a rack rent unless when taken in kind. The great majority of the tenants are of the same caste and even near relations of the proprietors. The more important exceptions are the tenants of the Skinner estate, the Saiyads of Barsat and Faridpur, the Shekhs, Pathans, Ansáris, and Rájpúts of Pánipat, and of Mahájans and Kayeths wherever they hold land. I have distributed the agricultural castes which contain nearly all the owners of land into 4 classes. First there are the Játs, Rors, Rains, Gaddís, Málís, who are by far the most skilful cultivators, and spare no labour and care to ensure success. Their whole families are devoted to the work. Their women take part in every agricultural operation save ploughing and tending the sugar-mill. As a rule, they cultivate their own land in addition to a good deal of their neighbours', and they very rarely employ *sànjís* or *kámerás*. If they cannot cultivate all their own land, they usually make it over to a member of the brotherhood without asking any rent save the Government revenue. Next come Tagás, Gújars and Bráhmans, who are not indeed above work, but want energy, perseverance and skill. They have often larger holdings than they can manage, and they frequently take *sánjís* to assist them. Their women and children give but little assistance. Perhaps they may take food to those labouring in the fields, gather cotton, and the like. In the third place comes the Rájpút who is above labour and slothful. He cultivates a large holding very badly, or makes over as much of it as he can to *sànjìs* and hired servants.

"Last of all come the Skinner estate, Shekhs, Ansáris and others—Pathans, Mughals, Saiyads, Mahájans, who do not think of cultivating themselves, but let their lands to tenants, taking a share of the produce, or a rent in kind or in money. A number of persons of miscellaneous castes also own or cultivate land, and they are on an equality with the second class. Cultivators cultivating for the fourth class, whoever they may be, and cultivators of such castes as Dhobi, Lohár, Juláhá, Lodá, Chamár, Kumhár, Teli, generally pay rent in one shape or another, while the others are nearly on an equality with the owners. The *sánjís* are of two descriptions, the *ji ká sànji*, who gives his personal labour only, and the *káchwa ká sànji*, who supplies also one of the plough bullocks. The Kamerás are boys under 15, who drive the Persian wheel, tend the bullocks and the like, and get Rs. 1 to 2 per mensem, or 20 seers to 1 maund of grain, or they are men fit for any agricultural work who get Rs. 3 to 4 per mensem. The Gwálá tends the cattle of a number of persons, taking a rupee a head for male horned cattle, and 8 annas for female."

Principal industries and manufactures.

Table No. XXIV gives statistics of the manufactures of the district as they stood in 1881-82. The only manufactures prosecuted in the villages are weaving in cotton and wool, rope-making, making pottery and bricks, and minor handicrafts, such as the making of baskets and mats. They are all conducted either by the people themselves or by the menials; the latter either providing the finished articles as part of their *begár*, or being paid for their work, almost always in grain. The products are always of the roughest description, and for better finish the people have to go to the towns. Below

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are a few notes on some of the principal manufactures. Spinning and weaving are described fully by Mr. Baden-Powel.

Rope-making.

The fibres used for rope, in order of exellence, are *sani*, *sàn*, *múnj dàb*, and *khajúr*, the preparation of each of which has been described under the head of the plant from which it is obtained. The villagers make all their ropes themselves. They take the raw fibre (*punja*) and spin it (*batna*) into thick string by rubbing it between the hand, and winding it round cross stick (*dhera*) which they spin round as they gradually form the strand. If the rope is too thick to treat so, two men take it, one by each end, and twist it between them (*antna*); or the following very ingenious spindle (*charkha*) is used. One end of the rope is tied to a stick fixed in the ground, and the other to the end of the spindle. The latter is rotated by a man pulling alternately each end of a string which is wound round it and has its middle passed in a loop round an upper spindle, the two ends being brought round the lower spindle both in the same direction, so that whichever is pulled the spindle turns the same way, the other end slipping loosely round it. If a stranded rope is to be made, two or three strands (*lar*) are taken, tied at one end to a tree, and the strands twisted tightly together (*saletna*) by means of a small stick inserted between them. Thin rope or thick string is called *bàn* or *jewari*. It is made of *mùnj* or *dub*, and is used for bedsteads and as string. An ordinary rope is called *jewara*; a very thick rope for carts, *ràs* or *dámras*. These are generally made of *sani*. The *màl* and *láo* are made of strands as above; but three small strands (*tanda*) are first twisted into a *ladda*, and two *laddás* into a *mál*, or three into a *lào*.

Pottery.

The potter seeks for the stiffest clay he can find, beats it, chops it up, works it well with sand and water, and makes it into rolls (*pindi*). He has a wheel (*chàk*) made of clay, with a heavy rim hanging down below it so as to keep the centre of gravity low. This rests on a wooden bearing called *khili* or *táola* and is spun by a stick (*chagreti*) inserted in a grove (*gulli*) near the edge. The roll of clay is put on the centre, and hollowed out and shaped between a flat wooden dubber (*thápa*) with which it is pressed outside, and a piece of clay of the shape of an inking pad (*kuneri*) held inside and opposite it to give a firm resistance. Water is sprinkled on with a dab of cloth called a *parola*. The finished vessel is cut off with a string called *chíwan*. It is ornamented with stripes (*chitta*) or gashes, and set to dry. The kiln (*áwa*) is made by building up three sides with bricks. In the back of this the vessels are piled up one on top of another (*jeth*) with dung-cakes filled in between. The whole thing is then covered up with shards mixed in among straw and refuse, and a little earth on top. It is lighted from below, and burns for two or three days. No attempt is made to regulate the fire, except by the distribution of the fuel in the first instance.

Brick-making.

The people make their own unburnt bricks for themselves. They dig the clay from the tank, work it up with water into *tagár* spread it out into a layer of the required thickness, divide it into bricks by two sets of cuts crossing each other at right angles, and allow them to dry in the sun. If they are to be burnt, the potter

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takes a contract at some Rs. 30 to Rs. 40 per *lákh*. He moulds them in a small mould, ranges them in stacks to dry, and bakes them piled up in a brick kiln (*pazáwa*) just as he does earthen vessels, with manure and refuse.

Town manufactures.

In the city of Karnál several handicrafts are carried to great perfection, being relics of the days of the old cantonments. Especially it is famous for its shoe-making, many thousands of boots being sent from it to regiments all over the country. The city of Pánipat is famous for the manufacture of copper and brass vessels and of skin jars (*kúpa*) for holding *ghí* and oil, and exports them in considerable numbers. There is also a glass foundry, the operations at which are fully described by Mr. Baden-Powel at pages 237*f* of his Panjáb Manufactures.

Mr. Lockwood Kipling, Principal of the Lahore School of Art, has kindly furnished the following note on some of the special industries of the district :—

Trinkets.

"Pánipat in this district has long been noted for small wares in metal of various kinds. A peculiar kind of bead-like ornament, known as *motís* or pearls, skilfully made in thin silver is one of the specialities of the place. A necklace of six rows costs about Rs. 30, of three rows about Rs. 10. There is no chasing or ornament of any kind, but the silver is a good colour and the beads are perfectly round. Captain Roberts reported in 1882 that this small industry is declining. Betel-nut cutters (*sarotas*) are here made in fanciful forms, the handles being of brass with quaint projections, in which small mirrors and pieces of coloured glass are fixed. A good one costs two or three rupees. Scissors are similarly ornamented; the handles being made of brass with bits of coloured glass rudely simulating jewels set therein. A pair of scissors costs about 6 annas. These articles are made for export.

Fabrics.

"The fabrics produced in the district are of no special interest. The Internal trade report for 1881-82, says that blankets of the ordinary native description are largely exported to other districts; and that the Kaithal *chautahi*, a cotton-cloth with its borders, red or blue is exported towards Patiálá and the Panjáb.

Glass-blowing.

"Karnál itself has long had a name for glass blowing. The silvered globes of thin glass, which, when broken up are used for mirror-worked, walls and also sewn into *phulkáris*, are invariably said to come from Karnál. In the descriptive catalogue of the Panjáb contributions to the Calcutta Exhibition 1883-84 Mr. Baden-Powel writes:—"In Karnál rude globes are made for ornaments, the inside being silvered with quick-silver and tin-foil; the large aperture necessary for the manipulation is awkwardly covered with oxidue. The Karnál glass-makers also prepare the large, thin, pear-shaped glass retorts or carboys, in which the native manufacture of salammoniac (*naushadar*) is effected. It would be interesting to know whether this slender manufacture is a survival of more important works carried on in either Hindu or Mughal times. There has never apparently been any lack of small phials for *attar* of roses and similar articles blown at one operation; but few examples of more substantial forms survive.

"Major Cole, R. E., showed at one of the Simla Art Exhibitions a glass *gulàb-pàsh* and a *hukka* bowl found at the Muhammadan capital Bijapur—(Bombay). These he described as probably of the 16th century and "as rare examples of how glass was formerly used by Native Kings and Chiefs." They are so exceedingly rare and abnormal, that it appears doubtful whether glass

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Glass-blowing.

was used at all by Native Kings and Chiefs in this part of India. To judge by the photographs, these vessels are of thick, white glass, cut or moulded in a hexagonal diaper pattern with fluted necks, all it must be admitted of Indian design. Nothing could be more unlike the thin, horn like glass of modern make, grey in colour and full of air bubbles. It has often been remarked that in this country there is abundance of material for glass making, and certainly there is no lack of soda. Flint sand is also to be had, nor are lead or borax prohibitively dear. But the difficulty in this as in so many industries is the lack of fuel. It would probably be cheaper to carry such glass making materials as are to be found, in the Punjáb to the hearths of Staffordshire and bring them back made up into glass than to attempt the manufacture on a large scale here. Nor is there any use for glass in the native scheme of life, except to contain *attars*. At all Punjáb fairs one of the most popular toys is a glass tube terminating at each end in a bulb and enclosing a small quantity of water. The tube is narrowed in the centre by a ring of thread, and the slow procession of air bubbles that ensues on reversing the tube is the point and interest of the toy. Not one in fifty of these brittle tubes survives the journey home; but this, with bangles and rings are the only uses to which this beautiful material is put."

Course and nature of trade.

There are no statistics available for the general trade of the district. The exports and imports of food-grains have already been noticed at page 185. There is no material available such as would render it possible to give anything like a complete view of the trade of the district. But a slight sketch of its general course will be interesting; and as a foundation for it, an abstract of the customs returns for the trade passing east and west through the Pánípat district in 1832-33 may be attempted. At that time that trade north and south went chiefly *viâ* Hánsi-Hissár, and not through Karnál, excepting salt, which passed up from Jhajjar through Karnál to the Panjáb in great quantities :—

Trade passing into the Doàb.

Goods.	Maunds.	Customs dues in rupees.
		Rs.
Oil seeds ...	58,616	8,794
Cotton ...	20,520	10,260
Salt ...	65,107	90,057
Salammoniac ..	2,583	2,067
Iron ..	4,766	3,400
Timber ...	...	5,200
Wool ..	641	481
Miscellaneous .		3,008
	...	1,23,261

Trade coming from the Doàb.

Sugar	2,75,017	87,082
Gur	2,42,546	24,554
Cloth	167,880 pcs.	5,183
Leather	..	1,502
Safflower	3,248	2,820
Miscellaneous ..	...	3,580
		1,24,721

Ghí is not mentioned, and probably did not pay duty.

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Prices, Weights and Measures, and Communications.

Course and nature of trade.

The course of trade thus indicated has been entirely changed by the construction of the Railway and Grand Trunk Road, the mass of the external traffic now passing down these two arteries, the former being used for long distances, while the latter is still preferred for short ones. The only really important traffic east and west is that which flows to the great sugar mart of Shámli in the Muzaffarnagar district, the carts generally taking salt there from Bhiwáni, or *bájra*, *moth*, oilseeds and *ghí* from the highlands, and bringing away *gur*. The Khádar and canal portions of the tract produce a surplus of wheat, cotton, gram, and fine rice for export, and import salt, *bájra*, oil, and oilseeds, iron and piece-goods. The Nardak exports *ghí*, hides, wool, and in a good year large quantities of gram; and imports the same things as the rest of the district, with the addition of sugar.

The local trade is principally conducted through the village *baniàs* who deal with the larger traders at the three marts of Kaithal, Karnál and Pánípat, the last of which towns lies on the direct road to Shámli. But it is surprising how very considerable a trade is locally conducted by the villagers themselves, and especially by Játs from Rohtak. These people in the hot weather, when the bullocks would otherwise be idle, start with their carts, bring salt from Bhiwáni or *bàjra* and *moth* from Hánsi and Hissár, exchange it for *gur* or cotton in the villages, take this up into the highlands and exchange it for gram, and finally sell the gram at Karnál or Pánípat, either buying sugar to take back, or carrying piece-goods, &c., for hire. So, too, men from Kaithal and Patiálá will bring down gram or *ghí* on pack buffaloes, cross into the Doáb where they buy oil or oilseeds, and return and exchange them for *gur* to take home. And the Dehli traders often send up agents for cotton or *ghí* in the villages, and bring it direct to Dehli. This local traffic is of immense advantage to the people, as they deal direct with the carters instead of with the local *baniá*, and always get a better price than he would give. When the people of the tract themselves engage in similar operations, of course the profit is still greater. But this is not often the case, as in irrigated tracts the bullocks are seldom at leisure.

Such *gur* as is not absorbed in this manner goes to Shámli, the cotton and wheat to Dehli and Ambálá, and the *ghí* and hides to Dehli. Oil and oilseeds come from the Panjáb and the Doáb; *til* and *sarsam* from the former, *arhar* and *tára míra* from the latter. Timber comes from Ambála, iron and piece-goods from Dehli, salt from Bhiwáni, Dehli or Ambála. The petty articles needed by the people and not produced in the villages are supplied by small hawkers, who buy them in the cities and travel about the villages, exchanging them for grain. Gangs of travelling blacksmiths, too, are not uncommon, who do finer work than the village blacksmith can attain to.

SECTION D.—PRICES, WEIGHTS AND MEASURES, AND COMMUNICATIONS.

Prices, wages, rent-rates, interest.

The village prices of the chief agricultural staples used for the conversion of produce estimates into money at Mr. Ibbetson's Settle-

Chapter IV, D.

Prices, Weights and Measures, and Communications.

Prices, wages, rent-rates, interest.

ment of 1880 are shown below. They are based upon the average prices of the 20 years ending with 1874, prices of certain staples being excluded, in the calculations of the Nardak averages, for those years in which these staples were not produced because of drought. Table No. XXVI gives the retail *bázár* prices of commodities for the last twenty years. The wages of labour are shown in Table No. XXVII, and rent-rates in Table No. XXI; but both sets of figures are probably of doubtful value:—

Staple.	Nardak.	Karnál Khádar.	Karnál Bángar.	Pánipat Khádar.	Pánipat Bángar.
Cotton ...	13	12	12	11	12
Gur ...	...	18	18	18	18
Maize ...	43	36	37	35	
Fine rice ...	41	35	36	35	34
Coarse rice ...	48	45	44	...	...
Jwár ...	42	35	36	35	35
Bájra ...	35	29	29	29	29
Moth ...	39	34	34	34	34
Wheat ...	32	31	30	29	29
Gram ...	49	38	39	38	37
Barley ...	...	43	44	...	43
Wheat and gram ...	45	37	37	35	35
Barley and gram ...	50	42	43	...	40
Masúr ..	...	40	...	...	...

The figures of Table No. XXXII give the average values of land in rupees per acre shown in the margin, for sale and mortgage; but the quality of land varies so enormously and the value returned is so often fictitious, that but little reliance can be placed upon the figures.

Period.	Sale.	Mortgage.
1868-69 to 1873-74 ..	14—13	18—12
1874-75 to 1877-78 ..	15— 6	12— 4
1878-79 to 1881-82 ..	24— 3	20— 9

Mr. Ibbetson thus discusses the history of prices in Karnál:—

Changes in the value of agricultural produce.

"The prices of agricultural produce which ruled in the villages between 1830 and 1874 have been obtained from the *baniás'* books in the manner already described, and are summarised in the following table, which shows average prices in seers per rupee in the Pánipat *tahsíl*. The table at pages 199 and 200 give the details:—

Period.	Cotton.	*Gur.*	Maize.	Rice.	*Jawár.*	Wheat.	Gram.	Barley.
1830 to 1834 ...	16	21	67	53	68	45	58	46
1835 to 1839 ...	16	18	43	42	42	31	45	45
1840 to 1844 ...	18	21	42	33	38	34	39	45
1845 to 1849 ...	18	20	43	38	39	33	39	44
1850 to 1854 ...	21	24	52	37	55	41	50	58
1855 to 1859 ...	16	21	55	43	50	40	58	62
1860 to 1864 ...	10	16	31	33	32	28	34	40
1864 to 1869 ...	9	16	27	27	28	22	27	31
1870 to 1874 ...	11	16	31	31	32	25	31	37

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Changes in the value of agricultural produce.

"Special circumstances have combined to render the rise in prices, which has been so general all over India, somewhat less marked in this district than elsewhere. The large frontier cantonment which was kept up for so many years at Karnál created a local demand which its transfer to Ambálá did not much diminish; and the populous city of Delhi is so near that the metalling of the Grand Trunk Road, always a good one, which was done about 1863, did not affect prices so much as new communications would do in an isolated tract. The same thing may be said of the great mart of Shámli, to which the present road existed before last Settlement, though doubtless it is better now than then. Another cause which tended to keep prices up was the immediate proximity of the arid tracts of Hariáná and the Bágar, the normal state of which appears to be scanty rain relieved by frequent droughts. The influence of this cause is often noted in the early correspondence; but the extended use of canal water in these tracts has lately tended to equalise the local supply with the demand.

"The prices tell their own tale. The first five-yearly period is marked by the famine of 1833; the second by the drought of 1837-38. In the third, during which the Settlement was made, the rain-fall was somewhat scanty throughout; but the prices may probably be taken as the normal rates of the time, as they tally with those of the preceding period, and for the next five years remain almost unaltered, although the seasons were favourable. The supplies needed by the army operating in the Panjáb between 1845 and 1847 were largely drawn from this neighbourhood. The fifth period, from 1850 to 1855, is marked by a sudden and extensive fall in all prices, which continued to 1858; and this must, I fancy, have been owing to the opening out of the Panjáb, and to its surplus stuffs pouring into a market from which no railway existed to carry them away. The famine of 1859-60 only introduced the cotton famine, which began in 1861 and continued for five years, during which time it is estimated that £63,000,000 sterling of silver was poured into Bombay. This enormous addition to the circulation of the country drove up prices with a rush, and before equlibrium had been restored, the introduction of steam carriage from Dehli threw open the markets of the world to India, and perpetuated the high level which had been reached.

"The famine of 1869 created a temporary disturbance, but for the last five years the seasons have been fair, the opening of the Panjáb railway in 1870 has completed the connection between Lahore and Bombay, and prices have stood with an extraordinary steadiness at what may be considered their normal rates. Since then the drought of 1877-80 has again raised prices considerably; but the rise is probably only temporary. Taking the periods from 1840 to 1845 and from 1870 to 1875 as giving normal rates for last Settlement and for the present time, which I think we may fairly do, we find the rise in prices to be as follows:—

	Wheat.	Gram.	Barley.	*Jawár.*	Rice.	Cotton.	Maize.	*Ghi.*
Settlement rates ..	100	100	100	100	100	100	100	100
Present rates ...	136	126	121	119	106	163	135	131

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And the general result may be said to be that prices have risen by about one quarter.

Ruling Prices in the Pánípat tahsíl in seers per rupee.

Year.	Cotton.	Gur.	Maize.	Fine rice.	Jaudr.	Wheat.	Barley.	Gram.
1830						45		62
1831 ..	15	23	75	.	64	56		82
1832	16	24	55	42	59	42	56	56
1833 ...	14	17	.			29	37	28
1834 ..	20	22	70	65	80	51		62
1835 ..	18	15	67	60	69	44	.	68
1836 ...	17	20	60			38		59
1837 ..	14	15	26			25	.	35
1838	16	18	35	26	33	26		33
1839	16	20	25	30	25	24	45	27
1840	17	20	25	20	24	28	36	32
1841 .	20	18	48	33	45	35	41	35
1842	18	19	38	37	36	35	43	38
1843 ..	20	27	57	36	50	41	62	47
1844 .	17	22	40	38	36	32	42	42
1845 .	20	22	46	38	40	28	35	34
1846	23	14	40	38	36	30	47	35
1847 ..	19	17	46	42	41	38	46	42
1848 ..	13	22	31	35	30	31	45	39
1849 ..	14	25	50	37	50	36	47	43
1850	18	28	54	38	51	49	78	62
1851 ..	18	22	53	36	53	32	44	42
1852	26	23	57	34	53	38	52	47
1853	23	22	36	35	37	35	49	39
1854	22	27	60	42	80	50	65	62
1855	20	26	65	44	58	46	69	54
1856	17	20	53	49	55	45	75	72
1857	18	22	76	50	56	42	66	73
1858 ..	12	20	41	37	42	40	59	60
1859	12	18	40	34	40	27	39	30
1860 ..	11	13	13	18	12	15	18	18
1861	16	13	29	32	20	32	44	34
1862	11	18	48	47	49	39	54	47
1863	5	17	35	37	37	31	47	40
1864	6	18	31	30	32	25	37	32
1865	9	22	35	31	35	27	41	36
1866	11	16	28	27	29	23	33	30
1867 ..	13	14	36	32	38	26	35	30
1868 .	7	10	12	23	16	16	21	20
1869	6	16	21	20	23	16	23	19
1870 ...	9	16	31	33	31	26	36	28
1871 .	10	15	31	30	32	24	33	25
1872 ..	12	15	30	32	32	26	40	36
1873 .	12	15	30	29	32	23	37	32
1874	12	19	*32	29	32	26	38	33

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Ruling Prices in Karnál Nardak in seers per rupee.

YEAR.	Cotton.	Maize.	Fine rice.	Coarse rice.	*Jawár.*	*Bájra.*	*Moth.*	Wheat.	Gram.	Barley.
1855 ...	22	69	51	65	60	45	59	50	70	65
1856 ...	18	48	53	65	56	50	50	38	70	70
1857 ...	16	68	53	75	62	40	74	46	76	70
1858 ...	...	...	...	...	...	...	...	42	71	69
1859 ...	...	...	...	...	...	...	...	...	33	...
1860 ...	...	...	...	...	...	...	...	...	...	...
1861 ...	20	30	37	40	30	28	28	24	...	...
1862 ...	11	44	46	56	43	38	38	40	48	63
1863 ...	6	50	49	48	38	35	36	36	42	60
1864 ...	...	...	...	43	...	...	...	26	...	...
1865 ...	11	40	30	...	35	30	26	26	40	39
1866 ...	...	...	...	34	...	...	...	23	...	...
1867 ...	14	36	34	39	37	34	28	25	32	...
1868 ...	...	...	...	...	...	...	...	...	...	...
1869 ...	...	...	...	...	...	...	...	...	...	...
1870 ...	10	39	35	42	42	30	29	29	...	37
1871 ...	...	...	...	40	...	...	...	25	...	36
1872 ...	10	30	34	40	32	31	31	28	35	40
1873 ...	11	30	33	40	32	27	35	24	35	36
1874 ...	11	32	34	40	32	28	32	26	33	32
Average ...	13	43	41	48	42	35	39	32	49	52

NOTE.—The years for which the price of any staple is not shown are the years in which that staple was not produced in the Nardak, owing to drought.

Weights and measures.

The weights and measures of the district are divided into *kachcha* and *pakka*; the latter being the standard measures in which Government returns and records are prepared, the former, the measures used by the people in their daily life. Close to the towns the villagers often use *pakka* weights and measures; towards the Rohtak border they always use *pakka* weights and *kachcha* measures; in the rest of the tract both are always *kachcha*. But prices are always quoted in *pakka* weights. Thus when a villager says his field produces three maunds a *bígah*, and grain is 30 seers per rupee, the maund and *bígah* are *kachcha*, the seers *pakka*.

The weights used are as follows, the *pakka* weight being always double the *kachcha* weight of the same name:—

I.

5 totals = 1 chitánk *pakka*
20 ,, = 4 ,, ,, = 1 páo *pakka*
80 ,, = 16 ,, ,, = 4 ,, ,, = 1 seer *pakka*
3,200 ,, = 640 ,, ,, = 160 ,, ,, = 40 ,, ,, = 1 maund *pakka* =(82·3 lbs.)

II.

4 páo *kachcha* = 1 seer *kachcha*
160 ,, ,, = 40 ,, ,, = 1 maund *kachcha* = (41·15 lbs.)

III.

5 seers *pakka* = 10 seers *kachcha* = 1 dhari
10 ,, ,, = 20 ,, ,, = 2 ,, = 1 dhaun
60 ,, ,, = 120 ,, ,, = 12 ,, = 6 ,, = pánd = (123·45 lbs.)

This last is the real village measure, the weights in it alone not varying from *kachcha* to *pakka*. *Dhari* is a thing put down (*darna*) *dhaun* is a thing taken up (*dhauna*). Besides these there are *gahrá*

Weights and measures.

or as much as can be carried under the arm; and *bhàr*, or as much as can be carried on the head.

The measures of length are as follows, the *kachcha* yard being three quarters the length of the *pakka*, and being always used by the people:—

I.

3	Ungli	=			1	girah											
4	,,	=			=	1	muthi										
12	,,	=	4	,,	=	3	,,	=	1	balisht							
24	,,	=	8	,,	=	6	,,	=	2	,,	=	1	háth				
46	,,	=	12	,,	=	9	,,	=	3	,,	=			=	1	gaz *kachcha*	
38	,,	=	16	,,	=	12	,,	=	4	,,	=	2	,,	=	1	gaz *pakka*	= (33 inches)

II.

2	Qadams	=	1	gatha *kachcha*						
23	,,	=	10	,,	,,	=	1	jarib *kachcha*	=	(31·75 yards)

III.

3	Gaz *pakka*	=	1	gatha *pakka*						
60	,,	,,	=	20	,,	,,	=	1	jarib *pakka*	= (55 yards)

The *ungli* is the finger breadth; the *muthi*, the closed fist; the *balisht* the span; *hàth*, the cubit, or from the elbow to the finger tips, the *qadam*, the double pace.

The measures of area are as follows, each *kachcha* measure being one-third of the corresponding *pakka* measure; and the people using *kachcha* measure generally:—

Pakka—

20	sq *gathas*		=	1	*biswah*
400	,, ,,	= 1 sq. *jarib*	=	20	,, = (⅘ of an acre)

Kachcha—

5	sq. *gathas* =		=	1	*biswah*
100	,, ,,	= 1 sq. *jarib*		20	,, = *bigah* = ($\frac{5}{24}$ of an acre)

The *biswah*, weather *kachcha* or *pakka*, is of course further sub-divided into *biswánsi*, *tiswànsi*, *kachwánsi*, &c., each being one-twentieth of the proceding one. The scales given above are those now used; but the real difference between the *pakka* and *kachcha bigah* is that the former is based upon the *gatha* and the latter on the *qadam* as its unit; each consisting primarily of a square with 20 units for its side.

The measure of area is, as usual, probably derived from a seed measure or *bisi*. It is curious that land paying revenue to Government used in old days to be measured with a shorter chain than land of which the revenue was assigned; and we find this short chain perpetuated throughout the Ambála district and much of the Indrí *parganah*, where the owners do not cultivate themselves, and by the Skinners or similar landlords; the chain used being the *súti* or rope chain, which gives a *kachcha bigah* of only $\frac{5}{32}$ instead of $\frac{5}{24}$ of an acre. This chain is unknown to the villagers of the tract. Up till 1826, in which year the Government introduced the *pakka bigah* of 3,025 square yards, the local *bigah* was the present *kachcha bigah* of 1,008 square yards, which is approximately one-fifth of an acre.

There are no real measures of capacity current in the tract, grain and liquids being sold by weight. The *máp*, used to measure grain, generally holds either a maund or a maund-and-a quarter; but this is only approximate, and the contents of any particular measure are

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always weighed to ascertain the total weight. A pinch of anything is called *chugti*; a closed handful, *muthi*; and the contents of the two hands put open side by side, *anjlá*.

Communications.

The figures in the margin show the communications of the district as returned in quinquennial Table No. I of the Administration Report for 1878-79, while Table No. XLVI shows the distances from place to place as authoritatively fixed for the purposes of calculating traveling allowance. Table No. XIX shows the area taken up by Government for communications in the district.

Communication.	Miles.
Navigable rivers . ..	73
Railways	..
Metalled road	60
Unmetalled road	595

Navigable rivers and canals; ferries, and bridges.

The Jamná river is navigable for country craft throughout its course within the district; but is only little used for the purpose. The old canal is navigable for rafts only, from Badarpur to Hánsi, and for boats and rafts from Rer to Dehli; the new main line, New Dehli Branch and New Hánsi Branch, have been designed for navigation for boats 90 feet in length and 16 feet beam, and depth of water 8 to 6 feet, headway 11 feet. The principal traffic on the Jamná river as stated in the Panjáb Famine Report (1879) is shown in Table No. XXV. The mooring places and ferries and the distances between them are shown below, following the downward course of the river:—

River.	Station.	Distances in miles.	REMARKS.
JAMNA—	Chaugáon ..	...	Ferry and mooring places.
	Kalsora ...	5	Do. do.
	Dabkauli ...	5	Do. do.
	Begi ...	4	Do. do.
	Mirgáhan ..	10	Boat bridge.
	Sanauli ...	18	Do.
	Khojgipur ..	11	Ferry and mooring places.

The table on the opposite page is a list of canal bridges on the new and old canals and their branches with distances in miles calculated from Badarpur.

Roads, rest-houses, and encamping-grounds.

The district has no Railway, and the Grand Trunk Road passes through it, connecting it with Dehli on one side and Ambála on the other, and is the only metalled road in the district.

The unmetalled roads, so far as they lie in the canal tract, are generally bad, and when they get into the zone of swamps due to the canal, all but impassable, a single cart having but little chance of getting on alone till others come up and the cattle can be doubled. But the Khádar roads, though often heavy with sand, are otherwise good; and those in the highlands are generally admirable. Communications with Rohtak, Hissár and Kaithal are good; but the *nelí* or flooded belt bordering the Saruswati and Ghaggar completely cuts off the Patiálá highlands for all wheeled conveyances; and though a road has been made beyond Kaithal towards Patiálá, it requires some further expenditure to develope its usefulness. The Ambála Railway station is 48 miles from Karnál, and the Dehli station, 53 miles from Pánipat,

No.	Names of bridges.	Distance from Badarpur in miles.
	New Main Line.	
1	Indrí Regulator	8
2	Gorgadh	11½
3	Kheri	13
4	Rambha	15
5	Karáh	17
6	Ucháná	19
7	Karnál	22
8	Kaithal	23
9	Ghogripur	26
10	Baroutá	28
11	Jani	30
12	Gogsina	34
13	Manak Bifurcation	38
	New Dehli Branch Division.	
1	Dehli Branch Regulator	38
2	Rer Bridge	39
3	Rer Escape Head	41
4	Bahuli Bridge	43
5	Sutana Ferry	45
6	Kabri Bridge	48
7	Panipat & Allupur Road Bridge	50
8	Do. & Jatoul do.	51
9	Binjaul Lock Bridge and Fall	52
10	Mahráná Ferry	53
11	Hartari Bridge	54
12	Bursham Bridge	57
13	Naraina do.	59
14	Dhodpur Bridge	61
15	Dhindhar Ferry	63
16	Mahrana Syphon	65
	New Hánsi Branch.	
1	Lock at Hánsi Head	38
2	Bala Bridge	40
3	Mor Majra Lock and fall	42
4	Bhuslan Bridge	45
5	Dhohat Bridge on old Hánsi canal	46
	Butana Branch.	
1	Butana Head	46
2	Bridge No. 50	51
3	Do. No 90	53
4	Do. No. 119	55
5	Do. No. 150	57
	Old Canal.	
1	Indrí suspension bridge	9
2	Budha Khera Bridge	25
3	Karnál Cantonment	27½
4	Do. City	29
5	Gharounda	33
6	Phurlak	39
7	Raipur	41
8	Rer	48
	Bridge on old Dehli canal.	
1	Bahuli	50
2	Khukrana	54
3	Jatoul	57
4	Noultha	61
5	Dadwari	64
6	Palri	66
7	Chamrárá	69
	Hánsi Branch.	
1	Rer Bridge	48
2	Dharam Godh Bridge	51
3	Shera Bridge	53
4	Madlouda Bridge	56
5	Joshi Bridge	58
	Rohtak Branch.	
1	Narah Bridge	60
2	Adhiana Bridge	62
3	Alupur	64
4	Ahar	67
5	Karana	70
	Ballah Branch	
1	Ballah Canal Head	45
2	Munak Bridge	46
3	Do do No 2	47
4	Rer Wala Bridge	48
5	Ballah Bridge	51
6	Goli Bridge	52
7	Ram Wala Bridge	53

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Roads, rest-houses, and encamping-grounds.

the road being metalled throughout. Jagádhri is the nearest station, being barely 40 miles from Karnál; but unfortunately the road, otherwise a good one, runs along the crest of the Khádar, and is so cut up by drainage from the Bángar as to be almost useless.

The village roads are in the highly-cultivated parts unspeakably bad. They are exceedingly narrow; and the banks which protect the cultivation being dug from the soil of the road, they become veritable sloughs in the rains; while in the canal tract the frequency of standing water, the want of bridges, and the slipperiness of the salt-impregnated soil when damped by a shower, makes the road always difficult and often almost impassable, and carriage throughout the tract infinitely laborious.

The following table shows the principal roads of the district, together with the halting places on them and the conveniences for travellers to be found at each:—

Route.	Halting places.	Distance in miles.	REMARKS.
GRAND TRUNK ROAD, METALLED.	Samalká ...	...	Encamping ground, *Sarai*, Police Rest-house, and Road Bungalow.
	Pánípat ...	10	Encamping ground, *Sarai*, Police and District Rest house, and Road Bungalow.
	Gharaundá ...	10	Encamping ground, *Sarai*, Police Rest-house, and Road Bungalow.
	Karnál ...	10	Encamping ground, *Sarai*, Dak Bungalow, Road Bungalow and Canal Bungalow.
	Butana ...	13	Encamping ground, *Sarai*, Police Rest-house, and Road Bungalow.
KARNAL AND KAITHAL, UNMETALLED.	Nisang ...	14	*Sarai*, Police Rest-house.
	Púndri ...	14	Ditto. Ditto.
	Kaithal ...	10	*Sarai*, District and Police Rest-house. This is a double road for light and heavy traffic.
PANIPAT AND KAITHAL, UNMETALLED.	Rajaundh ...	15	Police rest-house.
	Asandh ...	8	Ditto.
	Khukrana ...	22	Canal *Chauki*.
	Pánípat ...	4	Encamping Ground, *Sarai*, District an Police rest-house, Road bungalow.
		...	A double road, for light and heavy traffic.
KAITHAL TOWARDS PATIALA, UNMETALLED.	Síwan ...	6	This road runs towards the Ghagar river.
	Chíka ...	12	
	Arnowli ...	10	
KARNAL TOWARDS HANSI, UNMETALLED.	Jani ...	8	Canal bungalow 1½ mile from road.
	Munak ...	8	Canal bungalow between Munak and Rer one mile from road.
	Rer ...	1	
	Jidh boundary	7	Nil.

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Route	Halting places.	Distance in miles.	Remarks.
PANIPAT TOWARDS ROHTAK, UNMETALLED.	Israna	12	Canal *Chauki*
	Rohtak boundry	5	Nil
PANIPAT TO ALUPUR UNMETALLED.	Allupur ..	13	Police Rest-house
KARNAL TOWARDS JAGADHRI, 3 MILES, 14 UNMETALLED.	Indrí	13	Canal *Chauki*
INDRI TOWARDS THANESAR UNMETALLED.	Pipli ...	10	Encamping-ground, *Sarai*, Police rest-house, road Bungalow.
INDRI TO BUTANA, UNMETALLED.	Butana ...	8	Ditto. ditto. ditto.
RAJAUNDH TO PUNDRI, UNMETALLED.	Pundri ...	13	*Sarai*, Police Rest-house.
MUNAK AND PUNDRI, UNMETALLED.	Pundri ...	19	Ditto.
NISANG TO MUNAK UNMETALLED.	Munak	13	Police rest-house at Nisang ; canal bungalow at Munak.
ALUPUR TO NAULTHA UNMETALLED.	Alupur ...	8	Police rest-house.

There are also unmetalled roads from—

			Miles.
Kaithal	towards	Pehowa	12
Do.	,,	Thánesar	8
Do.	,,	Jínd .. .	21
Karnál	,,	*Saháranpur .	11

* Part metalled.

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Roads, rest-houses, and encamping-grounds.

			Miles.
Karnál	towards	Asandh	26
Do.	,,	Meerut	6
Do.	,,	Fírozpur	21
Pánípat	,,	Sanauli	10
Indrí	,,	*Karnál	17
Do.	,,	Thánesar	8
Do.	,,	Butána	8
Pánípat	,,	Safídon	15
Do.	,,	Nisang	26
Indrí	,,	Chaugáon	12

On these there are no fixed halting places.

There is a good unmetalled inspection road available for light wheel traffic along the left bank of the new main line, New Hánsi Branch and New Dehli Branch, and a fair road along the old canal and its branches below the Bádsháhi bridge on the Grand Trunk Road. But the Canal Department do not allow these roads to be used by the public. There are inspection bungalows on the old and new canals, with furniture only; they are situated at Badarpur, 24 miles from Karnál, on the old canal; at Indrí, midway between the old and new canals, 15 miles from Karnál; at Phurlak 12 miles; and at Rer 24 miles below Karnál; also at Isráná, Lohárí and Joshí; at Rambá on the new main line, 9 miles from Karnál; Karnál itself on the new main line; Jáni 7 miles from Karnál on the new main line, and Múnak 15 miles from Karnál at the bifurcation.

The Karnál *dák* bungalow is completely furnished and provided with servants. The district and Police rest-houses have furniture, crockery and cooking utensils, but no servants. The canal *chaukis* and road bungalows have furniture only. A horse *dák* and several camel and bullock trains ply along the Grand Trunk Road from Dehli to Ambála.

Post offices.

There are Post Offices with Savings Bank and Money Order Offices at—1, Karnál; 2, Pánípat; 3, Gharaunda; 4, Samalká; 5, Alúpur; 6, Asandh; 7, Nísang; 8, Púndri; 9, Butána; 10, Budláda; 11, Gúhla; 12, Kunjpura; 13, Indrí; 14, Kaithal; and village post offices at—1, Taráori; 2, Barsat; and 3, Naultha.

* Part metalled.

CHAPTER V.

ADMINISTRATION AND FINANCE.

SECTION A.—GENERAL ADMINISTRATION.

Chapter V, A.

General Administration.

Executive and Judicial.

The Karnál district is under the control of the Commissioner of Dehli. The ordinary head-quarters staff of the district consists of a Deputy Commissioner and 2 Extra Assistant Commissioners. An Extra Assistant Commissioner is posted at Kaithal in charge of the Kaithal Sub-division. Each *tahsíl* is in charge of a *Tahsíldár* assisted by a *Náib*. The village revenue staff is shown in the margin. There is one *Munsiff* in the district, who has jurisdiction within the Karnál and Pánípat *tahsíls*, and also in *parganah* Asandh of the Kaithal *tahsíl*. He sits alternately for 2 months at Karnál and 2 months at Pánípat. The statistics of civil and revenue litigation for the last five years are given in Table No. XXXIX.

Tahsil.	*Qanungoes* and *naibs.*	*Girdawars.*	*Patwaris* and assistants
Karnal ..	2	2	92
Panipat ..	2	4	75
Kaithal ..	3	..	55

Criminal, Police and Gaols.

The executive staff of the district is assisted by Bháí Jasmer Singh of Arnauli, Bháí Anokh Singh of Sidhowál, Nawáb Muhammad Ali Khán of Kunjpura and Devá Singh of Kaithal, the first with the powers of a Magistrate of the 1st class, the second and third with 2nd class powers, and the last with 3rd class powers. The first three exercise magisterial powers within the limits of their respective *jágírs* and the last in the town of Kaithal.

The police force is controlled by a District Superintendent and one Assistant. The strength of the force as given in Table No. I of the Police Report for 1881-82, is shown in the margin. In addition to this force 30 *daffadárs* and 1,095 village watchmen (see Chapter III, page 139) are entertained and paid by the villagers half-yearly at each harvest time.

Class of Police.	Total strength.	Distribution.	
		Standing guard.	Protection and detection.
District Imperial	461	43	418
Municipal ..	156	..	156

The *thánás* or principal police jurisdictions and the *chaukís* or police posts on the Trunk Road, are distributed as follows :—

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General Administration.

Criminal, Police and Gaols.

TAHSIL KARNAL.—*Thánás*—Karnál, Sadr, Karnál city, Nísang, Gharaunda, Butána and Indrí. *Road posts*—Samána, Butána, Takhána, Shámgarh, Uchána, Mirán Gháti, Púl Bádsháhi, Jhíl, Gharaunda, Kohand and Badauli.

TAHSIL PANIPAT.—*Thánás*—Pánípat, Alúpur and Simbhálka. *Road posts*—Pánípat, Seva, Machhrauli, Simbhálka and Pati Kaliána.

TAHSIL KAITHAL.—*Thánás*—Kaithal, Gúla, Rájaund, Asandh. Púndri and Budláda.

There is a cattle-pound at each *tháná* and one at Kunjpura, the former under the control of the police and the latter under the *Tahsíldár* of Karnál. There are also pounds at Singhoa, Rer, Phurlak, Naultha, Khukrána, Pabri, Isrána, Joshi, Mowána, Goli, Sínk and Kurána, under the management of the Canal Department. The district lies within the Ambála Police Circle, under the control of the Deputy Inspector-General of Police at Ambála.

The district gaol at head-quarters consists of some old gun-sheds, to which barracks and work-sheds have been added. It contains accommodation for 262 prisoners. Table No. XL gives statistics of criminal trials, Table No. XLI of Police enquiries, and Table No. XLII of convicts in gaol for the last five years.

Criminal tribes, and crime.

The Sánsís, Biluchís and Tágús are proclaimed under the Criminal Tribes Act, and the number of each on the register in 1882 is shown in the margin. They were brought under the Criminal Tribes Act in 1874, 1876 and 1881 respectively. The rules on the subject have worked well as regards the Sánsís and Biluchís. A large number of Sánsís was struck off the register in 1882, only those being retained who were residing in 12 villages noted in the margin which have a bad reputation. The Biluchís have behaved very well during the past few years, and there have been hardly any cases against them; it is therefore proposed to strike off gradually all the names from the register who are proved to be of good character and have ostensible means of livelihood. Thus in a few years hence it is hoped that the Biluchís and Sánsís will be entirely free from the operations of the Criminal Tribes Act. As regards the Tágús they are still addicted to thieving and they travel long distances for this purpose. There is every reason to believe that the application of the Act to this tribe, if it be rigorously enforced, will be beneficial.

Tribe.	Men.	Women.	Children.
Sánsis .	143	135	161
Tágús ..	283	...	116
Biluchís ...	79	...	25

1. Bálú
2. Pakka Khera.
3. Pádla.
4. Jákauli.
5. Pattanpúri.
6. Kúrak.
7. Básdhára.
8. Urlána Kalán.
9. Do. Khurd.
10. Naín.
11. Adiána.
12. Sálwan.

Cattle-stealing may be said to be the normal crime of this district, the Nardak wilds affording much facility for its successful accomplishment. Thefts of this nature are performed in a very systematic manner, the animals being rapidly transferred to great distances, and to other districts through the medium of accomplices. Cattle-lifting, however, now is become less prevalent owing to the heavy punishment offenders. Formerly the greater families or even headmen of villages would occasionally demur to give a daughter in marriage to a man who had not proved his capability to support a family by cattle

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General Administration.

Revenue, Taxation, and Registration.

theft; and before British rule cattle raids in the most extensive scale were by no means uncommon throughout the Kaithal and Asandh *parganahs* of the district.

The gross revenue collections of the district for the last 14 years, so far as they are made by the Financial Commissioner, are shown in Table No. XXVIII, while Tables Nos. XXIX, XXXV, XXXIV and XXXIII give further details for Land Revenue, Excise, License Tax, and Stamps respectively. Table No. XXXIIIA shows the number and situation of Registration offices. The central distillery for the manufacture of country liquor is situated at Karnál. The cultivation of the poppy is forbidden in this district. Table No. XXXVI gives the income and expenditure from district funds, which are controlled by a Committee consisting of 30 members selected by the Deputy Commissioner from among the leading men of the various *tahsìls*, and of the Civil Surgeon, Inspector of Schools, Executive Engineer or Assistant Engineer, 3 Extra Assistant Commissioners, and 3 *Tahsìldárs* as ex-officio members, and the Deputy Commissioner as President. Table No. LV gives statistics for Municipal Taxation, while the Municipalities themselves are noticed in Chapter VI. The income from Provincial properties for the last five years is shown below:—

Source of income.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.
	Rs.	Rs.	Rs.	Rs.	Rs.
Ferries with boat bridges ...	5,588	15,002	9,158	8,449	13,129
Ferries without boat bridges	3,698	3,050	5,083	4,207	3,765
Staging bungalows ...	336	335	209	281	292
Encamping-grounds ...	834	1,110	1,002	1,186	1,028
Cattle-pounds ...	3,025	2,049	2,056	2,190	2,016
Nazul properties ...	288	433	414	339	355
Total ...	13,769	21,979	17,922	16,652	20,585

The ferries, bungalows and encamping-grounds have already been noticed at pages 202—206, and the cattle-pounds at page 208. The *nazùl* properties in the Karnál district consist of 17 old buildings, 12 gardens and 15 pieces of waste land and sites of old forts, &c. Among the old buildings there are 1 *sarái* at Karnál, 2 gateways of the old Imperial *sarái* at Gharaunda, and one palace at Kaithal. The *sarái* at Karnál was built by a banker named Bhara Mal in the time of the Emperor Akbar; and there was a *sarái* at Gharaunda which is said to have been built in the time of Sháhjahán. Only the gateways are now standing, the architecture of which is after the style of the Kutab at Dehli. The old palace at Kaithal belonged to the Bháis of Kaithal, and became Government property when Kaithal fell to the British on the failure of the ruling line. Figures for other Government estates are given in Table No. XVII, and they and their proceeds are noticed in the succeeding section of this Chapter, in which the land revenue administration of the district is treated of.

Statistics of land revenue.

Table No. XXIX gives figures for the principal items and the totals of land revenue collections since 1868-69. The remaining

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Statistics of land revenue.

Source of revenue.	1880-81.	1881-82.
	Rs.	Rs.
Surplus warrant *talabánah* ...	510	436
Fisheries ...	57	57
Revenue fines and forfeitures ...	20	..
Fees ...	301	354
Other items of miscellaneous land revenue ...	...	12,552

items for 1880-81 and 1881-82 are shown in the margin.

Table No. XXXI gives details of balances, remissions and agricultural advances for the last fourteen years ; Table No. XXX shows the amount of assigned land revenue ; while Table No. XIV gives the areas upon which the present land revenue of the district is assessed. The incidence of the fixed demand per acre as it stood in 1878-79 was Re. 1-3-7 on cultivated, Re. 0-11-9 on culturable, and Re. 0-9-3 on total area. The statistics given in the following tables throw some light upon the working of the Settlement :—Table No. XXXI—Balances, remissions, and *takavi* advances. Table No XXXII—Sales and mortgages of land. Tables. Nos. XXXIII and XXXIIIA—Registration.

Education.

Table No. XXXVII gives figures for the Government and aided, middle and primary schools of the district. There are middle schools, for boys at Karnál, Pánipat, Kaithal, Kunjpura and Púndri ; while the primary schools are situated at Amín, Biáná, Barsat, Bairsál, Barás, Farídpur, Gharaunda, Ghír, Indrí, Júndla, Julmáná, Kalsaurá, Kaimlá, Kutel, Múnak, Nísang, Rambhá, Sandír, and Taráori, in the Karnál *tahsíl* ; at Bábail, Jaurási, Manána, Patta Kaliána, Rákasahrá, Simbhálka, Siwa, and Ugra Kheri, in the Pánipat *tahsíl* ; and at Budláda, Chíka, Fattehpur, Hábrí, Kheri Ghulám Ali, Rájaund and Síwan in the Kaithal *tahsíl*. The district lies within the Ambála circle, which forms the charge of the Inspector of Schools at Dehli.

Table No. XIII gives statistics of education collected at the Census of 1881 ; and the general state of education has already been described at page 82. Among indigenous schools the Arabic school at Pánipat is worthy of notice. It is supported by the voluntary contributions of the more wealthy Musalmáns, and some 30 to 40 boys attend, chiefly sons of the middle class Muhammadans of the town. Ladies of the Dehli *Zanána* Mission are located at Karnál, and visit women in the city and teach them and their children.

Karnál District school.

The Karnál Zillah School, now called the District School, was established in 1860. The school is situated in an old fort, within three minutes' walk of the city of Karnál. In addition to the main building, there are two detached rooms used for the lower primary school class rooms, as well as separate boarding houses for the Hindú and Muhammadan boarders, and separate kitchens for both, built along the fort walls, with a room for the Superintendent of the Boarding House between the two. The staff consists of a head master, 2nd master, mathematical teacher, and one Persian teacher in the middle school ; two English and one Persian teacher in the upper primary, and five Persian teachers in the lower primary school. There are two vernacular branch schools in the city and one in the *sadr bázár*. In the city branches there are two Persian teachers, one Nágri and one

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Karnál District school.

Hindi teacher; and in the *sadr bàzàr* branch one Persian teacher. The *sadr bàzàr* branch and the Hindi portion of the city branch are under the "*payment* by *results*" system. The accompanying statements give the figures of the last five years, showing expenditure, number of pupils and results as shown by examinations. During the past five years the accommodation for classes and boarders has been doubled, but it is still far from meeting the requirements of boys, who are yearly increasing on the rolls of the establishment :—

YEARS.	Annual expenditure of past five years.	Average No. on rolls.	Candidates for Middle School Examination.	Passed the Middle School Examination.	Candidates for Upper Primary School Examination.	Passed the Upper Primary School Examination.	Candidates for Lower Primary School Examination.	Passed the Lower Primary School Examination.
	Rs.							
1878-1879	6,045	334	3	3	...*	...	36	35
1879-1880	6,747	343	1	...	20	13	18	12
1880-1881	6,189	289	7	6	22	12	25	19
1881-1882	5,970	304	6	3	17	13	26	25
1882-1883	6,526	327	3	3	18	17	28	26

Medical.

Table No. XXXVIII gives separate figures for the last five years for each of the dispensaries of the district which are under the general control of the Civil Surgeon, and in the immediate charge of Hospital Assistants at Karnál, Pánípat, Kaithal, Kunjpura, Asandh and Budláda.

The *Sadr* dispensary of Karnál, which was founded in 1861, is situated at the north-west corner of the town, between it and the civil lines, and contains accommodation for 22 male and 12 female in-patients. Its staff consists of a Hospital assistant, compounder, and menials.

Ecclesiastical.

There is a small Church at Karnál capable of seating some 50 persons. No Chaplain is posted here, but one of the Cambridge Missionaries at Dehli visits Karnál once every two months to hold a service at the station. An ordained Native Missionary of the S. P. G. Mission, Dehli, is located at Karnál, and he holds service in the Church on Sundays.

Head-quarters of other departments.

The portion of the Grand Trunk Road which runs through the district is in the charge of the Executive Engineer Provincial Works Division Dehli. The Western Jamná Canal, as far down as Rer, is under the charge of the Executive Engineer Karnál Division stationed at Dádupur (Ambála *viâ* Jagádhri); the main line below Rer is in the charge of the Executive Engineer, Dehli Division stationed at Dehli; while the Rohtak Branch belongs to the Hissár Division under the control of an Executive Engineer stationed at Hissar. The Superintending Engineer of the Canal has his head-quarters at Dehli. The Grand Trunk Road north and south of Karnál is under the Executive Engineer Provincial Works Division, Dehli, who has charge of the public buildings of the district, while he is subordinate to the Superintending Engineer, 2nd Circle, at Ambála. The Military buildings (stables for the cattle and horse farms) are in charge of the

* There was no Upper Primary in 1878-79.

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Head-quarters of other departments.

Executive Engineer Military Works at Ambála, and the Superintending Engineer Military Works, at Lahore. The Post Offices are controlled by the Superintendent of Post Offices at Dehli. The cattle farm at Karnál is under the Superintendent of the Cattle Farm at Hissár.

SECTION B.—LAND AND LAND REVENUE.

Introductory.

It may be imagined, from the manner in which the district was constituted, that its revenue history is exceedingly complicated. The primary division of the district is into two portions—that which came to us in 1803 and formed part of the old Pánipat district, and that which came to us after the Sikh wars, and was included in the old Thánesar district. The latter is now under revision of Settlement by Mr. Douie; in the former the Settlement has recently been revised by Mr. Ibbetson. But each of these main divisions may again be sub-divided. Of the Pánipat district, the part assigned to the Mandals has a very different fiscal history from the *khàlsa* portion; while of the Thánesar district, the Kaithal tract was settled separately from the Thánesar and Ládwá estates. Thus the present section will be divided into three portions, the first treating of the Thánesar district, the second of the Pánipat district, and the third of general matters common to both.

PART I.—THE THANESAR DISTRICT.

Sikh revenue system.

The Sikh revenue administration of the Kaithal tract is thus described by Captain Abbott :—

" The revenue collection was nominally a *batài* of one-third or one-fourth of the produce, with *zabti* at fixed rates one rupee per *kachcha bígah*. The one-third produce was taken generally, but one-fourth in some of the Bángar villages; but in addition to this numerous taxes made up the revenue. In the *parganahs* where the *rabi* crop is unknown, and indeed in others where it promised unfavourably, an arbitrary assessment was fixed, which in addition to the numerous taxes was collected by the *zamindàrs* by a " *bach* " upon cattle, poll, hearths and ploughs in the Bángar, but on the three latter only in the Khádar *parganahs*. It may be interesting and instructive to record the items that composed the revenues of a village for a *rabi* instalment as demanded by the state, and which it must be remembered is exclusive of many items that swell the village account. For instance, the village of Hursola paid as follows :—

	Rs. A. P.	Rs. A. P.
Mushakhsah, or fixed demand for one crop		310 0 0
Percentage on do. at 35·8	79 0 9	
Sirdebi	30 1 0	
Nazaràna to State	19 0 0	
Do. to *Musàhibs*	6 0 0	
Nazar to (all the Ranis)	13 0 0	
Bricks to repair fort, &c., ...	13 12 9	
Kàzi allowance to	1 0 0	
Talabàna	1 0 0	
Nira, rate fixed at 4	4 0 0	
Thanadàri	14 0 0	
Ugàhi or expense of collections	7 3 6	
Amini @ 1-8 per cent. and Record Keeper ...	4 10 6	
		192 12 6
		502 12 6

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Sikh revenue system.

This is not given as a solitary instance, but as a type of the prevailing system. Each village furnished a certain number of *Chamàrs* who, if not required, paid one rupee per head per harvest. The sum above entered as *jama* was arbitrarily fixed, according to the season and past collections. When the *batài* prevailed, which was usual only when the crops promised well, a poll tax of Rs. 2 per head was taken in addition, but a cattle tax had never been demanded by the State as is usually supposed. When the *Mushakhsah* system was adopted, it included the poll tax. The arm of the law, if law it can be called, was weak, paralyzed; no protection was given to person or property, indeed the State set the example, and plundered without remorse. It was the most common occurrence to mark off a slice out of a village on which to locate a favourite;—entire disregard being had to right or possession. The State considered all land its own, to be dealt with as it pleased. Cattle at graze were attended by bodies of armed men; forays and bloodshed were frequent and common; and want of security caused the *zamindàrs* to plunder in self-defence. Occasional attempts were made to extend cultivation by cuts from the rivers, but these required a dam across the stream, which it was necessary to protect by a tower; indeed a well could not be worked without a tower into which the wood-work and bullocks were deposited during the night or on approach of plunderers. The powerful villages only paid so much revenue as they found it convenient to do; those of Pai and Chátar invariably resisted the forces of the Bhái, which were either unable or unwilling to make an impression upon them. Few crimes were acknowledged, and such as were, were punished by fine—with imprisonment until paid; open evidence was unnecessary to conviction: the secret information of an informer was ample, and the fact of possessing the wherewithal to meet the demand more than conclusive. Cattle foray was the chief crime; murder was punishable by fine; cheating, forgery, and indeed crimes deemed unnatural in civilised countries were here considered good jokes. The fiscal rule, it may therefore be said, was oppressive in the extreme, the judicial weak and tyrannical.

Constitution of the Thánesar district.

The tract of country, formerly known as the Thánesar district, formed part of the Sikh conquests in 1763, and, together with the rest of the states into which the newly acquired territory was parcelled out by the conquerors, came under the protection of British Government in 1808-9. Subsequently, on the principle that the paramount power is entitled to some benefit in return for the protection it affords, it was held with regard to large estates, like Jínd and Kaithal, that on failure of heirs male in the direct line of the original conqueror the property be escheated to Government. By the operation of this rule, and those subsequently framed and promulgated for regulating successions to, and lapses in *jàgìr* estates, commonly known as the *pattìdàri* rules, all the land revenue in the district has been created. The territory thus acquired consisted for the greater part of the possessions of three great houses and their dependants:—

1.—The Bháís of Kaithal. 2.—The Sardárs of Thánesar. 3.—The Rájá of Ládwá. The first-named family became extinct on the demise without issue of Bhái Ude Sing on the 14th March 1843, when the estate known as the Kaithal district lapsed, and was sum-

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Constitution of the Thánesar district.

marily assessed for three years by Colonel (Sir Henry) Lawrence. It consisted of the *tahsìls* of Kaithal and Gúlah, and a few *parganahs* since separated from the district and otherwise disposed of. The Thánesar estate was conquered by Sardárs Bhág Singh and Bhanga Singh, and was divided between them in the proportions of 2-5ths and 3-5ths respectively. The share of the former lapsed to Government on the death without heirs of his grandson Jamaiyat Singh in 1832, and the villages comprised in it were summarily assessed by Captain Murray. The possessions of the latter escheated on the death of Sardární Chandkaur, the last surviving widow of his son Fatteh Singh, which occurred in 1850, and the estate was settled by Captain Larkins in the same year. The lands of these two chiefships lie principally in the present *parganah* of Thánesar, with a few villages in Indrí and in the Ambála district. The possessions of the Rájá of Ládwá consisted of the tract of country jointly acquired by Sáhib Singh and Gurdit Singh in 1763. The estate descended undivided to the son of the latter, Ajit Singh, and was lost by him when he deserted our cause and joined his countrymen Trans-Satlej on the breaking out of the first Sikh war. It was summarily settled by Captain Abbott in 1846, immediately after the Rájá's defection. The territory which thus came into our possession embraces a large part of the Ládwá and part of the Thánesar *parganahs*.

Regular Settlements.

The Regular Settlements of the district were made independently in two divisions, and at distinct periods by different officers. In December 1846, Captain Abbott, then District Officer, received orders permanently to assess the western division, which went by the name of the Kaithal district. The task was completed and reported on by him in the October following, or in eight months from its commencement. The result of this haste was, that the records were found to be erroneous, and the assessments heavy and unequal. The Settlement was in consequence not reported for confirmation, and after some years of further trial it was decided in 1853 that the whole work should be done over again. This duty was at first assigned to Mr. Melvill, to be taken up after he had completed the Settlement of the Ambála district, but eventually entrusted to Captain Larkins, who brought it to a close in February 1856. It was proved, however, that the returns were still inaccurate. In his anxiety to get them off before his departure on leave, Captain Larkins had had them hurriedly prepared, and errors had thus crept in. The whole were finally revised by Captain Busk, who succeeded him in the charge of the district, and were re-submitted by that officer with Captain Larkins' report in February 1857.

The regular assessment of the eastern portion of the district formed part of Mr. Wynyard's duty as Settlement Officer of the Cis-Satlej States. He commenced operations in the Ládwá *parganah* of the *tahsìl* of that name in 1848, and working round by Indrí and Thánesar finished off with Sháhábád in 1852, making over the papers to Captain Larkins. Much, however, still remained to be done before the Settlement could be considered complete. The records of the Sháhábád *parganah* had to be prepared *ab initio*, and 106 *jágìr* villages for which in the first instance "rules of practice" had been drawn up, had under recent orders of the Board of Administration to be assessed.

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Regular Settlements.

While this work was progressing it became evident to Captain Larkins that Mr. Wynyard's *jamas* in Ládwá were in many cases too high, and some of the best villages were in consequence being ruined. At the same time numerous petitions complaining of over-assessment poured in to the Commissioner. A special report was called for by him, and the upshot was that Captain Larkins was authorized to revise Mr. Wynyard's assessments in Thánesar and Ládwá. The whole of this work was completed and reported by that officer in February 1856. But it soon appeared that, notwithstanding the large reductions that had been given, the *jamas* in particular cases were still too high; Captain Busk, the then Deputy Commissioner, was therefore allowed to give further relief where it might be required. This was done, and the result reported with his letter No. 83 of the 25th March 1859, re-submitting Captain Larkins' original report and revised returns.

Further revisions.

At last it was believed that the long-sought-for object, a light and equable assessment, had been attained, and the formal sanction of Government alone was wanting to bring the proceedings authoritatively to a close. Not so however: for great as had been the reductions, and theoretically light as might appear the assessments when compared with those of surrounding districts, it was found that practically the Settlement would not work; coercive measures to realize the Government demands had constantly to be resorted to, and repeated applications were sent up for permission to transfer or farm the lands of defaulters. This state of things attracted the attention of Mr. Roberts, then Officiating Financial Commissioner, who pronounced the condition of the district "a blot on our administration", and at his recommendation it was decided that the Settlement of the district, excepting the Sháhábád *parganah*, should be again revised. Captain Elphinstone was selected for the duty; and in a letter of instructions, No. 131 of the 27th February 1860, the Commissioner, Mr. Barnes, pointed out to him the weak points of the Settlement to which he was especially to direct his attention. That officer arrived in the district in the begining of March, and brought the work of revision to a close on the 26th April, reporting the results in his letter No. 81 of that date. Mr. Barnes in reply stated that he approved generally of Captain Elphinstone's proposals, and the latter was soon transferred to another district. It appears that afterwards, on closer examination, Mr. Barnes began to have doubts as to the judgment displayed by Captain Elphinstone with respect both to the scope and the amount of the reductions proposed by him, and the Commissioner, therefore proposed himself to visit the district and bring the Settlement to a close. The drought and famine intervened, and caused the matter to be put off for another season, the Commissioner reporting that in his opinion it would be waste of time to attempt a revision then. The Financial Commissioner concurred in this view, and conveyed the sanction of Government to the proposal that the Commissioner's final report should be delayed till he could visit the district in person. But Mr. Barnes was not spared to the work; before another cold season came round he had died; and the duty of bringing the unfinished task to a close devolved on Captain (now Colonel) Davies, who reported the results of his revision in 1862.

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Land and Land Revenue.

Causes of the breakdown.

The following passages, extracted from the reports of Mr. Barnes and Captain Davies, show the demand, even after these repeated revisions, was too high till finally reduced by Captain Davies :—"I "believe that the assessments would not have broken down if there "had not been year by year most ruinous falls in the price of "agricultural produce. When Mr. Wynyard was settling Ládwá, "wheat was selling at sixteen seers for the rupee and other articles "at corresponding rates. At the present day the same wheat is at "38 seers, and the money value of a crop is thus diminished by "more than 100 per cent. Such variations in price are the true cause "for the almost universal failure of all early settlements."

"Reductions were given with open hand in the Government villages. But there was some reluctance to deal with equal liberality with the *jágír* village. In the first case we were giving away our own revenue, and had nothing to consult but the interests of the people. In the second case, the Settlement Officer felt that he must also regard the interests of the *jágírdárs*. Formerly they had collected their rents in kind, and had realized by this process a much greater revenue than they could expect under our system of money rates. Under Mr. Wynyard's Settlement the power was still left to them, but eventually all *jágír* villages, by the orders of the Board of Administration for the Panjáb, were made subject to our system of Settlement. Captain Larkins' *jama* therefore, had materially abridged the income received by the *jágírdárs*; and when this class had resigned themselves to the loss, and begun to consider the measure final, the Government resolved upon a still larger abatement of revenue in their own estates. By equal justice the *zamindárs* of the *jágír* villages were also entitled to the full benefit of the reduced rates; but, as I have said before, the Settlement Officer was restrained by consideration for the *jágírdár*. Wherever relief was really necessary, it was of course granted, but no interference was made without absolute necessity. So perhaps, as a general rule, the *jágír* villages will show higher rates of assessment than our own possessions. But these rates can be paid, and are infinitely preferable to the rates in kind which were formerly leviable from the people.

* * * * * *

"We need I think go no further than the history of the working of the Settlement itself; that alone is sufficient proof that over-assessment was the cause. Even in the *best years* the revenue was collected with difficulty, and frequent remissions had to be made; but now that the assessments have been subjected to a really severe test, a long continued drought, there has been an utter collapse, and fully half the demand has been suspended, the greater part of which will have to be remitted. With a previously light assessment the famine would have found the people prepared to meet it, their sufferings would have been comparatively light, and the Government revenue would not have been permanently affected as it now has been. Other causes, of which I may have to speak hereafter, have been at work, and have doubtless contributed to bring about this result, but over-assessment is the first and foremost and the root of nearly all the evils which have followed in its train.

"It will be seen that while the rates of the Thánesar *parganah* are higher than any except those of the highly favoured *parganahs* of Ládwá and Indrí, watered by the Jamná and its canal, the agricultural population is thinner there than in any but the Asandh *parganah*. This to my mind sufficiently accounts for the breaking down of the Settlement in

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Land and Land Revenue.

Causes of the break-down.

the former, and at the same time convinces me of the truth of the complaint that has met me everywhere during my tour through this district, that there are *not hands sufficient* to keep up the cultivation to a point which will enable the people to pay the revenue and support themselves. A series of dry years, ending in a famine, accompanied by a season of unprecedented sickness, have greatly added to the burthen borne by the population, and have aggravated the evils of over-assessment to such a degree that in addition to their actual losses in men and cattle, from which it will take them years to recover, their spirit seems literally to have been broken and their energies paralyzed. It is not too much to say that if we had no famine, the Settlement, after Captain Elphinstone's revision of it, would have worked well; and again, on the other hand, that if the revision had not taken place, half the villages in the Thánesar *parganah* would have been *irretrievably ruined.*"

Final revision by Captain Davies.

The following paragraphs, taken from Captain Davies' report, describe his operations in each *parganah.*

Parganah Ládwá.

"The condition of this portion of the district taken as a whole is prosperous. It has much to make it so: an abundance of both natural and artificial irrigation, with, at the sametime, a thick and industrious population. To this description there is, however, a marked exception in the tract of high Bángar land lying to the north of a line drawn from Radaur on the east to the point where the Suruswati enters the Thánesar *parganah* on the west. This high plain is dependent for its cultivation principally on wells and the periodical rains. It is here and there also flooded in good seasons by the Suruswati and Chautang, which, however, nearly as often do harm as good. Yet, notwithstanding the uncertain character of its cultivation, the rates of the original assessment in this part of the *parganah*, were actually higher than in the more favoured localities watered by the Jamná and its canal, where the crops are, so to speak, independent of seasons. Hence, as might have been anticipated, the Settlement here has not worked well, and frequent reductions have followed. During the drought, while the villages along the canal profited immensely both by the drying up of their swamps, which enabled a larger area to be brought under cultivation, and by the increased value of the crops produced, these Bángar villages were suffering all the horrors of famine, cattle died for want of pasture, others were slaughtered for food, and numerous desertions took place among proprietors and tenants, man and beast alike leaving a spot where existence was sustained against such fearful odds, to seek some more promising locality. Of the extent to which emigrations took place during the famine, I shall again speak when I come to describe the condition of the Thánesar *parganah*, which suffered in a still greater degree. It is to this cause that many of the reductions proposed by me in the Ládwá *parganah* are due.

Parganah Indrí.

"Comparatively few villages have required relief in this sub-division, the *jamas* of only 20 having been touched. The proposed modifications involve a reduction of Rs. 4,556, of which Rs. 2,550 were given by Captain Elphinstone. Most of the estates affected by the revision form part of the *jágír* of the Nawáb of Kunjpura, and the relief was necessitated by simple over-assessment. The Nawáb *jágírdár* being on hostile terms with his *zamindárs*, the task I have had to perform in this *parganah* has been a very delicate one. The *zamindárs* complained to me very bitterly of the many annoyances to which they were subjected by the Nawáb's underlings in those villages in which the *jágírdár* has been allowed to take his dues in kind; and as the Nawáb has had extensive magisterial and revenue powers, which he may be tempted to abuse in his private dealings with his *zamindárs*, it will be best in my opinion to remove all excuse for interference by directing that where the *zamindárs* are willing to accept the

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Parganah Indrí.

terms offered they be allowed to do so without giving the *jágírdár* the option of holding *khám*. Two villages in this *parganah* have been almost deserted owing to the dissensions between the proprietors and the Nawáb. The villages were undoubtedly over-assessed in the first instance; with the usual shortsightedness of a native, the Nawáb would not admit it, and opposed reduction. A struggle ensued, in which as a matter of course the *zamindárs* carried the day. The tactics adopted by them were first neglecting their cultivation, and then deserting in a body. The result was a much greater reduction than if the *jágírdár* had allowed a moderate amount of relief to be administered at the first.

Parganahs Pehoa and Chíka.

"Very few modifications have been found necessary in the *jamas* of these two *parganahs*. The reductions proposed amount altogether to Rs. 3,031, of which Rs. 1,714 are due to Captain Elphinstone's recommendation. The causes that have led to deterioration and loss of revenue in these cases were the famine and capricious inundation of the Suruswati and other hill streams, while in a few villages of Chíka the silting up of old channel of the Ghagar, which used to flow through them, has combined to bring about this result.

Parganah Sháhábád.

"The total reductions in this *parganah* amount to Rs. 2,787-12-0, of which Captain Elphinstone gave Rs. 1,994-4-0. This *parganah* was believed to be so fairly assessed that it was specially exempted from revision by the Financial Commissioner. Mr. Barnes, however, pointed out to him that it was not so perfectly settled as was supposed, and directed his attention to the part where he anticipated over-assessment would be found to exist. That officer reduced the *jama* of a few villages before his departure, but strange to say none of them are situated in the jungly track indicated by the Commissioner. Yet it was there I found the greatest distress existed. A number of miserable hamlets scattered about through this belt of *dhák* jungle, dependent in a great measure on rain for their crops, had been prostrated by the effects of the sustained drought, and like others similarly situated in the adjoining *parganah* called urgently for assistance. In some great distress prevailed, and a corresponding degree of relief has been suggested in others where a slight reduction for a few years has been deemed sufficient to enable them to rally and regain their original healthy tone. With these exceptions, the general condition of the *parganah* may be pronounced highly prosperous, and the assessment light and equable.

Thánesar *parganah*.

"It cannot fail I think to strike the most casual observer moving about this *parganah* that its condition not long ago must have been infinitely more thriving than it now is. The ruinous state of the towns and villages, many of them disproportionately large for the numbers now occupying them; the numerous wells abounding in each estate, half of them now neglected; the proximity of the villages to one another; all point to some not very distant period when this part of the district was inhabited by a much denser population than that now located in it; and the evidence favouring this supposition is strengthened by the well known fact that under the Sikh rule it paid with ease a revenue twice the amount of the present assessment, and that such was the case my enquiries into the history of this district have fully established. The following are given as the causes that have operated to produce this change in the condition of the *parganah*:—The last Bhái of Kaithal, Úde Singh, had in his employ as prime minister a certain Tulsi Rám, an ignorant, shortsighted and grasping man. He ground down the population of that part of the district by excessive taxation, to escape from which numbers crossed over the border and took refuge in this part, then owned by the Sardárs of Thánesar, where a more liberal policy prevailed. In conse-

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Thánesar *parganah*.

quence of this immigration the population daily increased in numbers and prosperity until, by the death of Udo Singh in 1843, his estate passed into our hands. Since that time a gradual change has been taking place, by which the balance of taxation has been inverted. While the assessments of Kaithal have been gradually becoming lighter and lighter, those of Thánesar have been comparatively little reduced from the original high standard fixed by Mr. Wynyard. As might be expected, the tide of immigration has been turned back by this, and has from the date of the last revision of the Kaithal Settlement by Captain Larkins in 1854-55 set steadily in that direction, and has produced the state of things described above.

"The above would of itself have been sufficient to cause the Settlement to break down; but other circumstances have contributed to hasten that result, among the most prominent of which I may mention the following:—1st, periodical visitations of cholera; 2nd, calamities of season; 3rd, evil propensities of certain classes of the population. Cholera has repeatedly visited this ill-starred *parganah* and created great havoc; its ravages were greatest in the years 1855, 1857 and 1861, when many villages in both Thánesar and Sháhábád were almost depopulated. But (2) calamities of season have naturally created the most injurious and lasting effects. Hail-storms are frequent in this district, as was evidenced in the years 1851-52 and 1858; and although remissions were given, the relief thus afforded bore but a small proportion to the actual loss sustained. A still greater calamity, drought, commencing in the autumn months of 1859, reached its climax after the cutting of the *rabi* crop. The tract which suffered most is that broad expanse of jungle known in the language of the country as the *chachra*, lying to the north of the town of Thánesar, and extending east and west right cross the *parganah*. Here, from the scarcity of wells, the distress was so great that many villages were abandoned by the inhabitants *en masse*, and the losses by desertions and mortality among cattle in those which held together can scarcely be overestimated. The suffering was, however, not confined to this part, but was general throughout the *parganah*, though from the greater number of wells in other parts and the high prices realized for the scanty crops raised on them, its intensity was much mitigated.—(3) The vicious propensities of certain classes of the population have not been without their effect in adding to the loss of revenue. The villages held by Rájpúts, Hindús and Musalmáns, and especially the latter, better known by the name of Rángar, have invariably been found to be in worse condition than those in which the proprietors belonged to the industrious family of Játs, Kambohs, Ráins and Málís; because, although deficiency of assets might in both be primarily due to calamity of season, in the former it was aggravated by culpable laziness and neglect, whereas in the latter it was, in some measure at least, compensated for by increased exertion. The condition of the Rángar villages has been steadily going from bad to worse since the time of Settlement, nor is this to be wondered at, seeing that they systematically neglect the cultivation of their fields to follow the more congenial pursuit of cattle-stealing, which affords them both excitement and occupation. They all keep large herds of cattle, the losses in which are recruited by depredations on the property of their more peaceable neighbours, and the greater part of the village area is purposely left waste to serve as grazing grounds for their herds. At the same time, with the exception of their property in animals, they are miserably poor, and entirely without credit. The reductions proposed in this *parganah* amount altogether to Rs. 15,249, of which Rs. 8,435 appertain to Captain Elphinstone's revision. This may appear large, but not larger than the necessities of the

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Results of the several revisions.

case warrant; and some portion of the relief suggested to be granted is only temporary."

The following is an abstract of the results arrived at on each occasion as follows. The figures refer to the Thánesar district as then constituted :—

	Assessment.	Total amount of decrease.
Tahsil Laddwá.	Rs.	Rs.
Mr. Wynyard's Settlements ...	2,56,282	...
Captain Larkins' Revision ...	2,36,657	...
,, Busk's do. ...	2,16,970	39,412
,, Davies' do. ...	2,06,723	10,247
Tahsil Pipli.		
Mr. Wynyard's Settlement ..	2,02,890	...
Captain Larkins' Revision ..	1,91,260	...
,, Busk's do. ...	1,83,766	19,124
,, Davies' do. ...	1,65,729	18,037
Tahsil Kaithal.		
Captain Abbott's Settlement ..	1,17,653	...
,, Larkins' Revision ...	99,012	.
,, Busk's do. ...	08,752	18,901
Tahsil Gúlah		
Captain Abbott's Settlement ...	1,47,571	...
,, Larkin's Revision ...	1,13,039	.
,, Busk's do. ..	1,12,874	34,697
,, Davies' do. ..	1,09,843	3,031

PART II.—THE PANIPAT DISTRICT.

Early Revenue History.

Panipat. Early British Revenue Administration.

The state of the country when it first fell into our hands, has already been described in Chapter II. As soon as the establishment of British rule guaranteed the preservation of general order, the tract settled down as if by magic; the people who had taken shelter in the larger villages returned to their fields and hamlets; and those who had left the district altogether gradually came back again. But the habits which nearly a century of anarchy and confusion had engendered were not at once to be eradicated; and the oppressive manner in which we at first conduct our revenue administration greatly delayed the process. For the first few years revenue matters were practically in the hands of the people to whom we had assigned the various parts of the tract. But in 1817 we began to assess summarily the annual revenue to be paid by each village, not only in estates which had lapsed by the death of the assignees, but also, at the request of existing assignees, in many estates still held by them; and by 1824 this process was tolerably complete for the non-Mandal portion of the tract settled by Mr. Ibbetson.

The summary assessments were, throughout, incredibly oppressive. The assessment was based on the principle that Government was entitled by "the custom of the *parganah*" to half the *gross* produce of the cultivation; and a set of cash rates on the various crops which had sprung into existence under the Sikhs, and which had apparently been applied to a larger *bígah* than that used by us, were levied on areas taken from the *kánúngo's* records (afterwards found to offer no sort of approximation to the real areas), or roughly measured at the expense of the village. The rates, as applied, were Rs. 16 per acre for sugarcane; Rs. 9-3 for wheat, cotton and rice; Rs. 6-14 for barley; and Rs. 3-7 for other crops. These rates, however, were only used in

well-developed estates. Where pasturage bore a large proportion to cultivation, a rate of Rs. 3 per acre was imposed on the *whole culturable area,* "so as to induce the people to extend their cultivation." Besides this, a new tax on cattle was introduced at the rate of Rs. 2 per buffalo and Re. 1 per head of other cattle, the incidence of which was estimated at As. 10-6 per cultivated acre. The general incidence of the demands thus fixed averaged Rs. 5 to Rs. 5-8 per acre cultivated in 1828, when the first accurate survey was made. Mr. George Campbell reported that in many cases it would require *the whole gross produce* of the land and cattle to defray the Government demand. And in fact the assessments were purely nominal, as they were never collected—"in some instances not half of them—even in the first year of settlement." What could be got from the people was taken, and the remainder accumulated as balances. These were constantly added to the demand, so that year by year it increased in arithmetical progression; and if a good season rendered possible a surplus over the actual demand of the year, it was at once seized on account of the balances of less favourable seasons.

As early as 1822, before the Settlement was even completed, there were balances of a lakh-and-a-half in *tahsil* Pánípat alone; and the Board pointed out that "the inhabitants of some villages, nearly in mass, had abandoned their lands and homes and migrated to distant parts." In 1825 the Commissioner wrote:—"At a very early period "after the conclusion of last Settlement, the error in the assessments "was discovered; large balances occurred annually, till eventually *the* "*whole of Pánípat Khàdar* was taken under direct management, and the "impoverished people, without the means to pay half or even a third of "their original assessment, were once more content to remain on their "soil." In 1836, four-and-a-half *lakhs* of balances, dating from as far back as 1814, were still outstanding. The system of Settlement was no less oppressive than that of assessment. Large portions of villages were made over to neighbouring communities to hold and cultivate; and some of them so hold and cultivate them to this day. The village headmen, who were inordinately numerous, were spoken of and treated as the proprietors; the other members of the community as "*rayats.*" The settlement was made with the headmen alone, and no record existed of rights which had become a burden rather than a source of profit. There were no village accounts, no village accountants; and the collection of the revenue from individual cultivators was entirely unchecked so long as the amount was forthcoming. When a Settlement was made, the headmen were imprisoned till they agreed to the terms offered (in one case for ten, in another for seven months); and, having accepted them, till they furnished security for payment. One village refused to agree to the assessment, no farmer could be found, and the Commissioner directed the Assistant to "confine the people "and their cattle to their houses and the immediate site of the village, "and sequestrate all land, orchards, &c. and enough of cattle and goods "to cover the balances." Farms were only not common, because no farmers were forthcoming, and village after village was held in direct management. In 1824 the Assistant writes:—"With whatever "means a farmer may have commenced his agricultural career, he has

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"generally contrived to visit the jail four or five times, and to attain "an unenviable state of ruin in the course of three or four years."

The mode of collection was as vexatious and extortionate as the assessment was oppressive. The collections were made in February and September, long before the harvest; and the cultivator was thus "forced to part with his grain at a ruinous sacrifice." Guards were appointed to watch the crops in the interest of Government, but at the cost of the owner; and directly the revenue was overdue, horse and foot were quartered in the village at its own expense. One hundred and thirty-six horsemen were retained for the collection of the revenue, while 22 sufficed for the police duties of the same tract. The Board of Revenue writes :—"A pernicious practice prevails of "overwhelming the villages with swarms of hired servants furnished "with orders of demand for the instalmants of the land revenue, without "any regard to the means of the people, the state of the crops, the powers "of the village, or the number of hired servants so employed. In this "way native officers provide for hungry dependants; and men of every "bad description, idle, lazy loiterers, are scattered over the land, and "find employment in for bearing to realize the monies they are sent to "collect." In 1822 the fees of these gentry were reported by the Collector to have amounted to more than a *lakh* of rupees, of which the revenue sheriff admitted having received Rs. 600 *per mensem*. In 1826, after two consecutive years of famine, a small village had all its crops seized, all its headmen thrown into prison, and one hundred and twenty head of cattle sold for arrears of an assessment, which had never been realized from it in *any one* year, which was two-and-three quarter times its *present* assessment and of which Mr. George Campbell had declared in 1824 that it would absorb nearly the whole gross produce of the village lands and cattle. In 1823, after a year of great distress, the headmen of 53 out of a tract of 209 villages were in prison for arrears, some for as long as 171 days; and in 1824 the jail force was increased on account of the number of revenue defaulters in custody. In 1826 the Collector reported as follows :—

"The *tahsíldár* has urged the people to the extremity of their means, and they are consequently exhausted by a continuance of extraordinary struggles, grievously impoverished, and tremblingly apprehensive of a repetition of the grinding system. In many instances, and often in the largest villages, the whole village has fled in a body; for after the usual process of imprisonment and sale of property, desertion remained the common ultimatum."

As the Collector reported "everything was done by the *personal* "exertions of the *tahsíldár*." Yet in the *tahsíls* honesty would have been miraculous. In 1822 the *tahsíldárs* were paid only Rs. 20 a month. In 1835 one *tahsíldár* was officially stated to have been "the principal cause of the ruin of many villages in Pánipat Khádar." Till 1836 one *tahsíldár*, collecting 2½ *lakhs* annually, enjoyed a a monthly salary of Rs. 50; another collected Rs. 68,000 on a pay of Rs. 30; a third, Rs. 1,37,000 on a salary of Rs. 20; none received more than Rs. 100. Between 1821 and 1825 five *tahsíldárs* were suspended for fraud, within *four months* of 1835, three were criminally convicted and dismissed, and a fourth committed to the Court of Circuit. A common practice was for the headmen to apply for a suspension of demand, and for the *tahsíldár* to support the application.

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Sanction being obtained, the full amount was collected from the village, and the *tahsíldárs* and the headmen divided the difference. When the Collector visited the village and found that its condition did not justify a remission, he ordered the amount suspended to be realized, and the wretched proprietors had to pay twice over.

Under such circumstances the villagers became vagrants on the face of the earth. If neither of two villages could pay its revenue, the combined capacities of both might meet the demand on one of them. The revenue reports are *full* of such remarks as this :—"This "village is entirely abandoned ; half the villagers have run away ; only "five families left in this village." The protected Sikh state approached to within a mile of Karnál, and encircled the district on the north and west ; petty *jágírs* lay thick among the Government villages ; both offered a hearty welcome, land in plenty to cultivate, and lighter terms than our own to people driven from their homes by the burden of our rule. Desertion was so constant that the Collector in one case represented the uselessness of measuring the lands of a village eighteen months before assessing it, as "a year makes a great "difference in the condition of a village ; so prone are the people to go "from one village to another ;" and even the *owners* are described as "at times prepared to remove their ploughs and cattle to the waste "lands of a neighbouring village."

The most stringent measures were adopted to check this evil. As late as 1837, if the people deserted their holdings, they were proclaimed, and if they did not return within *one month*, all their rights lapsed to Government, which forthwith bestowed them on another. Meanwhile the village which harboured the defaulters and allowed them to cultivate its lands was subject to fine and imprisonment, the village of Bhainswál, assessed at Rs. 1,148, was sold for a balance of Rs. 288, and bought by Colonel Skinner for Rs. 146. In one case efforts were made to hold a semi-independent chief liable for the arrears of defaulters who had fled to his protection. The correspondence of the day is full of "the contumacy of the people" and the decided measures necessary to "crush this sort of rebellion." The contumacy consisted in omitting to pay a demand which absorbed 60 per cent. of the whole yield of their herds and acres ; the rebellion, in leaving, through fear of a prison, the homestead which is dearer perhaps to the Indian villager than to any other man on God's earth.

Gradual amelioration.

It is needless to describe at any length the steps by which a more reasonable system was arrived at. The famine of 1824 first forced upon the authorities a revision of the assessments, which was made under Regulation VII of 1822. The demands still averaged Rs. 3-8 to Rs. 4-3 on cultivation in small weakly estates, and Rs. 2-6 to Rs. 3-3 on the *whole culturable area* in fully-peopled villages. But a great advance had been made. The revenue survey made in 1828, by giving firm ground to work upon, had rendered impossible those gross inequalities of assessments which had till then been unavoidable. The half-share principle, too, was abandoned, the demand being estimated to absorb about a fourth of the gross produce ; and the revenue was collected after instead of before harvest. More attention was paid to the rights of individuals, field-to-field records were prepared showing the proprietary and cultivating tenures,

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Gradual amelioration.

each owner and each occupancy tenant received a slip stating the amount he was liable for, and *patwáris* of a sort were appointed; yet surplus land which a village could not cultivate was still largely settled with the neighbouring villages, and estates were farmed, even when the owners agreed to the assessment, if "poor and broken up," or, when flourishing, if the farmer would give 10 per cent. more than they offered. In fact, the system pursued throughout was that, having estimated the assessment as a guide, the Collector put up the estate to be bid for, allowing the owners a margin of 10 per cent. in their favour. Direct management was still frequently resorted to, many villages were still partly broken up or deserted by their inhabitants, the balances of twenty years still hung suspended over the people; but the general state of affairs was greatly improved, and in 1831 the Collector could report that "for the last four years the "revenue has been collected with more reasonable regularity."

After the famine of 1833 the assessments were again largely reduced. It was found that cultivation had "very generally decreased" since the survey of 1828. The rates were still exceedingly high. A rate of Rs. 2-6-5 per *culturable* acre was taken as a standard to be worked up to, with "a considerable *sum* added for cattle" in sparsely peopled villages; and the average on cultivation was Rs. 3-2 to Rs. 3-12, while the rate in some cases reached Rs. 6 or even Rs. 9 an acre. A still greater boon was the remission of the outstanding balances, which was effected in 1836-39. Between this time and the Regular Settlement of 1842 the assessments of individual villages were, in the Khádar at least, continuously being reduced; but no complete revision of settlement was attempted. In January 1839, for the first time since the conquest of the tract, no one was in prison on account of revenue balances; and imprisonment on this score may be said to have ceased as a common practice from that date.

The Bángar villages, being for the most part larger and more populous than those of the Khádar, had suffered somewhat less from raids in the days preceding our rule; but, on the other hand, the greater labour which a stiffer soil entailed upon the cultivator, and the uncertainty of the yield in a tract almost entirely dependent upon rain, made the return of the inhabitants to a village which the had once deserted less easy. The irrigation from the Royal Canal had, till the failing of the Mughal power threw the country into confusion, been very extensive; and then no doubt, as now, wells were but little used where canal water could be got; while the troubles which closed the canal were not favourable to the laying out of capital in sinking new wells. The tract was therefore more than ordinarily dependent upon rainfall—a fact which kept down the cultivation to a far smaller proportion of the culturable area than in the Khádar. Thus while, on the one hand, demands based on cultivated or culturable areas pressed far more heavily than where abundant water was easily procurable; on the other hand, when security to life and property were once assured, the existence of an unlimited area of soil as fertile as any already under the plough, gave, with the rapid increase of cultivation, an elasticity under inordinate assessment which was want-

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Gradual amelioration.

ing in the more fully developed riverain tract; and the gradual extension of canal irrigation so aided this increase, that from the time when the canal was restored by our Government, its history may almost be said to be the history of the Bángar. That history is sketched in the Appendix and need not be repeated here.

After 1833 cultivation made enormous strides; and from that time till the Regular Settlement the prosperity of the Bángar was unbroken save by the epidemics of 1841 and 1813; for scanty rain meant nothing more disagreeable than high prices to villages protected by the canal. These epidemics, however, assumed, a special severity in the canal-watered tracts, and inaugurated for them a reign of malaria, the continuity of which has never since been broken.

Regular Settlemen of 1842.

In 1837 a revision of Settlement under Regulation IX of 1833 was ordered; and Mr. Alexander Fraser reported on Pánípat Bángar in 1839. His report is lost; but he slightly reduced the current demand. His proposals were rejected, not only as being inadequate to the capabilities of the tract, but still more as being unequal in their incidence; while his survey was found to be so incorrect that the whole work had to be done over again. Mr. Edmonstone then took charge of the Settlement, and finally reported on it in 1842. The report has been reprinted in "Settlement Reports of the Dehli Territory, Lahore, 1874." In every Khádar village but one the new demand was lower than the existing one, and in every village but two, lower than that first assessed upon it; the total reduction was about 15 per cent., and the incidence of the revenue per cultivated acre was Rs. 2-11. In the Bángar the current demand was raised by 6 per cent; but reductions were given in all the finest and largest villages. The incidence upon cultivation was Rs. 2-8-11. At the recommendation of the Settlement Officer all outstanding balances were remitted; and the people at length had a fair chance of prosperity.

The new assessment not only possessed the unprecedented merit of moderation, but it bestowed the still greater boon of a distribution of the burden bearing some intelligible relation to the means of bearing it. Hitherto, each assessment had been chiefly based upon the one before it, reduced in such degree as was thought absolutely necessary to keep the inhabitants from absconding. What rates were used had been applied to cultivated or culturable areas, without distinction of kinds of soil, or of irrigated and unirrigated land. The new settlement was based upon rates carefully estimated for each of the three kinds of soil in both its irrigated and dry conditions. The extravagant difference between the rates paid by Játs and those demanded from Gújars, which had imposed upon the former what Mr. Edmonstone characterises as a severity of taxation "of which, in the course of my experience, I have seldom found similar instances," was in a great measure removed. The long term of the Settlement gave substance to the relief; and as Mr. Lawrence says, "the people were remarkably well pleased." The table on the next page gives the best figures obtainable for these old assessments.

Early Pánipat Assessments.

Groups of villages.	No. of villages.	PANIPAT KHADAR.							PANIPAT BANGAR.								
		First Settlement, 1817-21.	Second Settlement, 1826-33.	Third Settlement, 1835-37.	Demand in 1841.	Regular Settlement, 1842.	Cultivated area in 1828.	Cultivated area in 1842.	No. of villages.	First Settlement, 1817.	Second Settlement, 1821-23.	Third Settlement, 1826-30.	Fourth Settlement, 1834-36.	Demand in 1841.	Regular Settlement in 1842.	Cultivated area in 1828.	Cultivated area in 1842.
		Rs.	Rs.	Rs.	Rs.	Rs.				Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Group I	53	1,40,355	1,13,000	1,08,609	1,13,721	87,965	28,732	31,662	12	73,856	55,263	...	53,781	53,596	50,986	17,946	18,652
II	8	...	22,480	17,862	18,116	14,622	5,070	5,237	25	66,100	...	71,994	64,297	61,623	72,716	21,064	29,036
III	5	...	...	14,237	14,339	12,667	3,824	4,746	12	...	50,260	45,430	41,880	40,234	43,659	13,193	17,701
IV	...	...	...	...	...	...	...	...	11	...	28,545	27,795	27,275	27,321	30,308	8,192	13,346
V	...	...	...	...	...	...	...	...	4	...	...	15,780	15,550	15,550	15,983	5,363	6,676
Total,	66	...	...	1,40,708	1,46,176	1,15,254	37,626	41,645	64	...	...	...	2,02,783	1,98,324	2,13,652	65,758	85,411

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Revenue history since the Regular Settlement. The Khádar.

The history of the Khádar since the Regular Settlement has, on the whole, been satisfactorily monotonous. In 1843 an epidemic occurred, more terrible even than that of 1841. In 1851 a drought began which, continued to 1852, almost caused a famine; and the effects upon the crops were "infinitely disastrous." The famine of 1859-60 was in some degree compensated for by the bumper crops of 1861-62. In 1869 it was estimated that 20,000 cattle died in the Khádar and Bángar tracts; and the effects of this loss are felt to this day, heightened as they have been by the grass famine of 1875-77. The absolutely useless Ror escape has been dug right across the tract, impeding traffic, holding up the Bángar drainage in a great lake between the Khádar bank and the Grand Trunk Road, and allowing it to burst through the rotten banks, to the great injury of the cultivation below it and of the health of the city of Pánípat. And much damage has been done by saline efflorescence and swamp in the north of the tract, where the canal and the Burhá Kherá escape traverse the Khádar. The river has done much harm by cutting away good soil; and in some years, by passing in flood down its old abandoned channels. In his assessment of 1842 Mr. Edmonstone did not sufficiently allow for the inferior soil and still more inferior cultivation of the Rájpúts and Saiyads who hold the more northern villages; and some of these villages have utterly broken down, and considerable reductions have been given, in one instance to the extent of 33 per cent. of the whole demand. But on the whole the settlement, especially in the Pánípat *tahsíl*, has worked well; and the tract is prosperous with the exception of its northern extremity.

Revenue History since the Regular Settlement. The Bángar.

In the Bángar the later, no less than the earlier history depends almost wholly upon the canal and its action in the tract it traverses. The famine of 1859 is still remembered as the year in which all the canal villagers cleared up their accounts with the village money-lenders; while in 1869, though the cattle suffered no less than elsewhere, yet the luxuriant crops and high prices went far to compensate the people for the loss. From 1871 to 1874 they suffered severely from heavy rains; and in the drought of 1875 the peculiarities of the season conspired against them to prevent them from taking advantage, as usual, of a scanty rainfall. But the vicissitudes of the season are quite overshadowed in the Bángar by the terrible evils which the canal system has caused by interference with the natural drainage of the country. And which are fully described in the Appendix.

Very soon after the Regular Settlement, the deterioration of the soil forced itself upon the attention of Government. In 1850 the people of some of the worst villages determined to abandon them and settle in Jínd unless relief were afforded. The Government, however, decided that the terms of Settlement must be adhered to, and that the people had "no right to any consideration;" and all that was done was to take certain villages under direct management, the Sadr Board declining to deal with individual estates, and directing that a general report should be made when, and not till when the revenue could no longer be realized. As pointed out by Mr. Sherer, "the Játs of this district will pay up as long as it is possible for them

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Revenue History since the Regular Settlement. The Bángar.

"to raise money by any device, or at any immediate sacrifice; and "when they find default inevitable, they consider the worst come, and "leave their villages." Thus the break up was "sudden and complete." In 1856 most of the inhabitants of the worst villages deserted them and fled to Jínd, and the villages utterly broke down. The Government censured the "lamentable apathy" of the Collector; and Mr. Sherer, Collector of Aligarh, was specially deputed to survey and report on the tract.

His admirable report was submitted in 1857, and is printed as part of Selections No. XLII (1864) from Government of India correspondence P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had not nearly reached its limits, but must necessarily continue to spread almost indefinitely. He says:—"The possible resources of the "*biswahdárs* of several estates are now exhausted. They have borrowed "money at extravagant interest; they have become the mere farm "slaves of some *baniá* residing in their village; they have sold the "trees on their estates; they have sold their daughters; they have "sold their silver ornaments and brass utensils, and as many of their "cattle as it was possible to spare; and no conceivable source of income "is any longer available." Between 1859 and 1861 the villages were taken up in detail; considerable initial reductions were given; and principles were laid down upon which annual relief was to be afforded where necessary, and revenue was to be reimposed where land had recovered. The whole revenue remitted on this account since 1856 has been about Rs. 4,58,350. Mr. Ibbetson thus describes the result of these operations:—

"I have no hesitation in saying that the relief so afforded has been wholly inadequate. The initial reductions, welcome as they were to the sufferers, do not seem to me to have accurately measured the degree of mischief. The demand on such land as had become absolutely and obviously unculturable was remitted; but little, if any, allowance was made for the deterioration of the remaining cultivation, for the impoverishment due to an ever-increasing burden borne for so many years, for the sickness of people and cattle, or for the almost total absence of pasture. No reduction was given where the decrease in cultivation was less than 10 per cent. on the whole cultivated area of the villages; and the result was the individuals and sub-divisions of villages which had lost a much larger proportion of their land failed to obtain relief.

"As for the subsequent yearly action it is difficult to characterise it too strongly. The directions of Government would appear to have been entirely overlooked, and no intelligent review of the whole circumstances of a village ever attempted. No remissions have ever been made, so far as I can discover, on account of general deterioration, apart from decrease of cultivation. That it became merely a matter of arithmetic,—so many acres rendered barren at so much an acre; find the reduction in assessment—was perhaps only to be expected in what had become a part of the yearly routine of the *tahsil*. And, to crown all, a mistaken reading of the orders confined the inquiry to such parts only of the area of each village as had been badly injured before 1860; so that subsequent spread of the evil was not taken into account at all."

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The Mandal Tract.

The early history of the Mandal tract, which had been made over to the assignees in 1806, differs materially from that of the remainder of the tract as sketched above; for up to 1847 there was no fixed demand, the Mandals collecting their share of the produce in kind. The state of the tract has been described in Chapter III, (pages 141-149), and the Mandal villages were pre-eminently notorious for turbulence and crime. They were almost wholly held by Rájpúts, proud, quarrelsome and fearless: looking upon agriculture as derogatory, they were cattle-graziers by profession, and cattle-lifters by hereditary taste. The few large villages in which they were concentrated were elevated far above the surrounding plain upon the accumulations of centuries, were surrounded by deep ditches and high walls with forts at the four corners, could only be entered by strong gateways with massive doors, were composed of lofty houses which turned their loopholed backs to the narrow winding streets, and were built almost entirely of brick. From these strongholds they drove forth their herds to pasture, while their servants tilled the scanty fields. Watchers on watch-towers and high trees throughout the jungle constantly scanned the plain beneath; and on the approach of danger, men and cattle sought the shelter of the village, or found yet greater safety in the pathless intricacies of the forest. Such were the people from whom the Mandals "holding, indeed, the title of *jágírdár*, yet possessing neither the name nor the authority of an executive officer," had to realize the revenue assigned to them by Government.

Under these circumstances the collection of rent from the villagers by the Mandals was a constant struggle between exaction and oppression on the one side, and audacity and cunning on the other. The Mandals themselves, deprived of the mental stimulus to which the warlike times just past had accustomed them, found that harassing and opposing the Government officers, even to lengths which would now-a-days infallibly end in a visit to jail, did not afford them sufficient excitement, and fell to quarrelling among themselves. The villagers fully entered into the spirit of this pursuit. Many of the largest villages were held jointly by the various Mandal families, and the boundaries of all were but loosely defined; and the people found that it was at once profitable and exciting to play off one Mandal against another. The chiefs themselves were for the most part ignorant and illiterate, and more inclined to pleasure than business; and the management of the estates was left in the hands of dishonest and unscrupulous stewards, whose interest in them was strictly confined to the immediate profit that could be made from them. Thus arose that bitter feeling of hostility between the villagers and the Mandals which exists in scarcely diminished intensity to the present day.*

The *parganah*, thus managed, had always been a thorn in the side of the authorities. At first the villagers had probably rather the best of the contest. But as order spread and authority was established, the position enjoyed by the Mandals, their greater knowledge of the law, and their longer purses, gave them a very decided advantage. As early as 1827 the Collector reported that the Mandals exercised very great

* The villagers to this day commonly speak of the Mandal who receives their revenue as their "*mudai*"—or "prosecutor."

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The Mandal Tract.

oppression. In 1834 Mr. John Lawrence wrote that they were brutally unfair and extortionate; and the instances he gave in support of his assertion are such as it is almost incredible should have been permitted by the authorities. Eventually matters reached such a pitch that Government had to appoint a manager to act for the Mandals in some of the larger estates. Meanwhile the Bángar and Khádar had been steadily progressing and cultivation extending. Even in the Nardak improved administration had done much to reclaim the people from their lawless habits; and in 1847 only 12 of the 93 villages were uninhabited, and those were small ones. But the proportion of the area under cultivation was still exceedingly small; the "police officials openly connived with the notorious depredators of those parts;" and the Nardak was "the most troublesome and the only turbulent part of the district." Such was the condition of the tract when the Lieutenant-Governor marched through it in the end of 1844. The impression made upon him by what he then saw, and the detailed instructions which he issued, will be found at length in Mr. Ibbetson's Assessment Reports. The following extracts will show the considerations which led him to direct that a Regular Settlement of the Mandal villages should be effected:—

"In marching from Karnál to Kaithal, the Lieutenant-Governor was much struck with the poorness and bad management of a great part of this estate. * * * The estate is large and valuable, whilst the permanent quit-rent with which it is charged is trifling. The Mandals are understood to have been already great gainers by the exchange; whilst by good management the value may be very greatly improved. The villages are British territory, subject to our laws in all branches of the administration. It is very doubtful if any circumstances justify the Government in leaving subordinate proprietors at the mercy of an assignee of the Government revenue, without interfering to define and record the rights of all parties. Circumstances in this case, however, particularly bind the Government to interfere. The lands were assigned by this Government, who are therefore bound to come forward and provide that no wrong is inflicted by the act of assignment, which resulted from the policy of the day. There are no old-established and doubtful claims of proprietary right to investigate. The village communities remain in all their integrity the unquestioned owners of the soil, and often able to resist by physical strength even the just demand of their superiors. If by our police we deprive them of the benefit of their strength, we are bound to substitute for their innate means of resistance the protection of legal arbitration. The Mandals did not very strongly object to the measure. They were apprehensive that it might curtail their influence and consideration, though they perceived that it might augment their income. The measure ought not to rest on their approval or rejection, and the Lieutenant-Governor is fully convinced that justice and sound policy alike demand its execution."

Mandal Settlement of 1847.

Mr. Gubbins at once commenced the Settlement which was sanctioned in 1847. The operations were conducted under circumstances of the greatest difficulty. The conquest of the Panjáb was then in progress, and at the frontier station of Karnál the demands upon the time of the civil officer were heavy and inexorable. The Mandals prosecuted their conflicting interests with "money, argument and occasionally armed retainers;" the people, unaware of its importance, were profoundly indifferent to the correctness of the record. The Settlement Officer did his best to patch up his material by arbitrarily

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Mandal Settlement of 1847.

increasing or diminishing all recorded areas in different villages according as he thought the survey figures too small or too large; but he confessed that the record was eminently unsatisfactory; and therefore proposed that sanction should be accorded to the Settlement for a term of five years only. But the errors of survey and record were immaterial, compared with the capital error which vitiated his assessments. His duty was to assess the dues of the Mandals, which were measured by "the legal and regulated right of Government to the land revenue." Hitherto the Mandals had collected rent, not revenue; and almost always in kind. Theoretically, the new demand should have been, under the rule of the day, two-thirds of the average collections thus made. Instead of this he assessed the Nardak at *more than the average past collections as stated by the Mandals themselves*, though their statements were known to be grossly exaggerated, and though a fixed money demand was being substituted for a self-adjusting levy of a share of the produce as it varied with the varying seasons.

The Settlement thus made was received with the greatest discontent. The people refused to accept it; and the Mandals, while petitioning against it as unduly low, encouraged the people in their refusal by promising them easier terms. The feeling of the people was especially embittered by the transfer to the Mandals in absolute property, under the directions of Government, of all villages which had been abandoned when the Mandals took over the tract, and to the resettling of which they had in any way contributed, either by loans expenditure of capital, or settling cultivators. Ten inhabited and 12 uninhabited villages, comprising an area of 20,850 acres, were thus made over to the Mandals; they still hold them as owners; and this more than anything else, has conduced to envenom the minds of the people against the *jágírdárs*. The Settlement was sanctioned, at the request of the Settlement Officer, for five years only; and the people eventually accepted the terms offered. Mr. Gubbins' report is printed as No. XXXI, Part VI, Vol. II of Selections from public correspondence, North-Western Provinces, Agrá, 1852.

Revision of 1852.

Within these five years balances of Rs. 65,500 had accrued on an assessment of Rs. 30,763 in the 28 leading villages of the Nardak. Some balances were also owing in the Khádar. The Collector reported that the most of the people would gladly return to direct management, and would certainly refuse to renew their engagements; that it would be impossible to find farmers; and that the Mandals had taken out decrees for their balances, and would probably put up the villages to sale. The Lieutenant-Governor discussed the matter at Dehli, and Mr. Ross was directed to revise the assessment. He was directed to "arbitrate between the Mandals and the people as he would between Government and its revenue-payers." He was to reduce the assessment, if too heavy; and to endeavour to induce the Mandals to relinquish so much of the balances as might appear to be due to over-assessment. As they held decrees, nothing more than persuasion could be used; but if they declined to abandon unjust claims, the estates were to be assessed at exceedingly low rates, so as to render the liquidation of balances possible. Mr. Ross failed to induce the Mandals to relinquish any part of their balances: but with

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Revision of 1852.

great difficulty he brought them to accept payment by instalments. He reported that "he had seen many parts of the country, but no-"where had he beheld so much poverty and depression as in many of "the large villages of the Nardak; that house after house was deserted "and in ruins; that there was an absence of everything indicative of "comfort; and that the number of cattle that had died during the "season would still further affect the prosperity of the villages." He also pointed out that, independently of the impoverished state of the estates (which alone would make it impossible), the absence of the majority of the villagers must render any attempt to collect even a portion of the balances abortive; for famine had driven the greater part of the Nardak population to other and more fertile districts, there to gain a livelihood as they best could, and graze their starving herds. Yet he wholly failed to realize the inordinate nature of the assessments he was revising; he was of opinion that their failure was owing to a quite exceptional run of bad seasons; and while he proposed a quite nominal reduction of 6 per cent. in the Nardak and 2 per cent. on the whole tract, he directed the balances to be liquidated by yearly instalments of half the assessment, thus really *enhancing* the demand, which the people had been wholly unable to pay, by 46 per cent.

The people of most of the Nardak and of some of the Bángar villages, where the canal was beginning to do harm, refused the terms; and of a total demand of Rs. 1,00,901, only Rs. 56,239, was engaged for. No farmers were forthcoming, and the Mandals took the recusant villages into direct management. They also sued out execution of their decrees for balances; but the Sadr Board flatly refused to allow any estate to be put up for sale till Government orders on the revised Settlement should be received, and thus saved the Nardak from wholesale confiscation. The orders of Government were delayed, and in 1855 it was found that direct management had not even realized the assessment, much less reduced the balances; while in the Nardak villages which had engaged for the new assessments, new balances had steadily accrued year by year.

The Lieutenant-Governor once more discussed the matter at Dehli. He decided with regret that it was not within the competence of Government to take the *pargana* entirely under its own management, paying the revenue collected to the Mandals. He remarked that there was "good reason to apprehend that frequent failure of crops "was much more the rule prevailing over the tract than Mr. Ross had "been led to believe in 1852;" and he refused sanction to the assessments of 1852, and directed Mr. Ross to make another revision.

Revision of 1856.

Mr. Ross reported that most of the Nardak, and especially the recusant villages, had sensibly deteriorated even from their "wretch-"edly depressed and impoverished condition in 1852; that one-and-a-"half out of the three years that had elapsed since the *pargana* had "been last assessed, had been, if not seasons of complete drought, at "least seasons of partial famine; and that it was only surprising that "the estates had not sunk altogther." The canal villages he found to have been impoverished by the "steady and rapid increase of *reh*, "all being more or less affected, and in some instances incalculable "damage having been done, while every year sees it increasing." He

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Revision of 1856.

also animadverted upon the Mandal management :—"No considera-"tion is ever shown, no concesssion granted with a good grace, and in "seasons of scarcity there is no disposition to be moderate. On the "contrary, the sole aim is to squeeze as much out of the estates as "possible;" and he instanced a village in which no crops had been sown owing to drought, and where the Mandal waited till a lapse of nine months had removed all proof of this fact, and then applied for the realization of a money-rate, on the ground that the people had prevented his servants from measuring and appraising the crops as they stood. He took the rates Captain Larkins was then using in his revision of the Kaithal Settlement, increased them somewhat, and adopted them as a guide. But his assessment and note-books show that he made but little use of them, trusting rather to his knowledge of the tract, and to the past history of each village. He reduced the assessment of the whole *parganah* by 20 per cent. In the canal tract he relieved 10 out of the 15 villages, the total reductions being 16 per cent. In the Khádar a reduction was given in six villages, amounting to 12 per cent. on the whole. In the Nardak the demands of all but five villages were reduced, in many cases to less than half the demand of 1847; the assessment being Rs. 38,190 against Rs. 50,759 in 1852, and Rs. 53,848 in 1847. As nothing more is heard of the old balances, it is probable that the collections between 1852 and 1856 were credited against them, and they were thus got rid of. The figures on the next page show the result of the two reductions of assessment.

The mutiny and the transfer of the district to the Panjáb caused some delay; but in 1860 the Panjáb Government, while regretting that the pasture lands had been assessed, and remarking that the assessments were still considerably higher than those of the Kaithal district, which was itself "a bye-word in the Panjáb," sanctioned the Settlement as having already been in operation for some years. The Board of Revenue, agreeing with the Collector, had recommended that the collection of the revenue should be altogether taken away from the Mandals; but the chief of the family had done good service in the mutiny; and as the proposed measure would have been looked upon by him as an indignity, it was not carried out; and Government "contented itself with confirming the assessments, on the distinct under-"standing that the rights of the Mandals are limited to an assignment "of the revenue, and do not extend to the management of the land; and "that in the event of calamities of season, deterioration by saline "efflorescence, or other reasonable cause, the *zámindárs* shall received "the same equitable indulgences as are granted to *khálsa* villages." The Settlement so confirmed is that which has just been revised.

Revenue history since the Regular Settlement.

Since 1856 the Nardak villages have, except in famine years, paid the demands then imposed without any very large balances or remissions, so far as is known. But of course, we know nothing about the realization of the Mandal revenue except when matters reach such a point that Government is compelled to interfere: and the Mandals themselves admit that the revenue has been realized very irregularly and with the greatest difficulty. The only events worthy of notice have been the terrible famines of 1860 and 1869, and the drought of 1877, already fully described. During the famine of 1869, the right

Early Karnál Assessments.

TRACT ASSESSED.		No. of villages.	REVENUE-PAYING AREAS. First Settlement, 1842-47. Cultivation.	First Settlement, 1842-47. Pasture.	Present State, 1876. Cultivation.	Present State, 1876. Pasture.	AMOUNT OF ASSESSMENT. First Settlement, 1842-47.	Reduced in 1852.	Reduced in 1856.	Existing in 1876.
NARDAK.	Mandal estates ...	67	34,481	97,989	38,177	82,289	53,848	50,759	38,190	37,917
	Other villages ...	7	2,249	8,606	2,977	10,709	4,700	...	...	4,246
	TOTAL ...	74	36,730	106,595	41,154	92,998	58,548	...	...	42,163
KHADAR.	Mandal estates ...	11½	7,618	5,975	7,698	3,820	15,050	15,014	13,297	12,770
	Other villages ...	35½	20,753	11,577	21,785	12,653	48,125	...	...	44,264
	TOTAL ...	47	28,371	17,552	29,483	16,473	63,175	...	...	57,034
BANGAR.	Mandal estates ...	15	16,406	11,385	15,402	6,692	36,068	35,128	29,470	29,371
	Other villages ...	17	14,426	10,087	17,442	9,101	32,588	...	...	30,602
	TOTAL ...	32	30,832	21,472	32,844	15,793	68,656	...	...	59,973
TOTAL.	Mandal estates ...	93½	58,505	115,349	61,277	92,801	104,966	100,901	80,957	80,058
	Other villages ...	59½	37,428	30,370	42,204	32,463	85,413	...	...	79,112
	TOTAL ...	153	95,933	145,719	103,481	125,264	190,379	...	...	159,170

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Revenue history since the Regular Settlement.

of Government to suspend and remit revenue in the villages granted to the Mandals, which had been distinctly postulated by the Financial Commissioner and Lieutenant-Governor when the Settlement was sanctioned in 1860 was discussed and finally affirmed. The revenue history of the Khádar and Bángar has already been noticed at pages 226-228.

The Settlement of 1872-80.

Basis and scheme of the assessment.

The instructions by which the Settlement Officer was to be guided in the assessment, were conveyed in Government Panjáb No. 1615, dated 3rd November 1873. They laid down that the demand was "not to exceed the estimated value of half the net pro-"duce of an estate; or, in other words, half the share of the produce of an "estate (ordinary receivable by the landlord, either in money or kind)." They directed him to pay special attention to produce estimates; and they further ruled that he was to "take into consideration all circum-"stances directly or indirectly bearing upon the assessment, such as rent-"rates where money-rates exist, the habits and character of the people, "the proximity of marts for the disposal of produce, the incidence of past "assessments, the existence of profits from grazing, and the like. These "and other considerations must be allowed their weight." Finally, they laid down that, after sanction had been received to the rates and gross assessment proposed for each *tahsil*, "full consideration must be given "to the special circumstances of each estate in fixing the assessment to be ultimately adopted." The most satisfactory basis of the Settlement would have been rent-rates, had such been forthcoming. But true rent at competition rates is almost unknown in the district. Accordingly, as the share of the produce ordinarily receivable in kind by the landlord is fairly well established, estimates of the gross produce of the land assumed a peculiar importance.

Mr. Ibbetson divided the tract into the five circles, of Nardak, Karnál and Pánípat Khádar, and Karnál and Pánípat Bángar, for assessment purposes. To utilise the produce estimates for purposes of assessment, it was necessary to fix the share of the produce ordinarily receivable by the landlord, and further to fix prices which, applied to that share of the gross produce, would give the estimated rental. Rents have already been discussed in Chapter III, (Section E). The proportions finally adopted were—

Nardak—
- Irrigated or manured ... one-third.
- Other land ... one-fourth.

Other Circles—
- Irrigated ... one-third.
- Dry ... tow fifths.

Results of the assessment.

The tables on the next two pages give the reults of Mr. Ibbetson's assessment. The rates used in previous Settlements are given in full detail in his report. Those sanctioned for his Settlement were as shown in the margin per acre.

SOIL.	Panipat.		Karnal.		
	Bangar	Khadar	Nardak	Bangar	Khadar
	Rs. A P.	Rs A P.	Rs A P	Rs A P.	Rs. A P
Irrigated	2 12 0	2 14 0	1 14 0	2 4 0	2 2 0
Dry dakar	1 6 0	1 8 0	0 12 0	1 1 0	1 4 0
" rausli			0 9 0		
" bhur	0 12 0	0 8 0			0 10 0
Moist rausli					
Pasture			0 0 8		
Canal land in its dry aspect	1 13 0			1 5 0	

Statement showing Assessments and Rates of Incidence in Rupees.

	Assessment in rupees.						Rates of incidence per acre.											
	Parganah Karnál.			*Parganah Pánipat.*			*Parganah Karnál.*						*Parganah Panipat.*					
							Nardak.		Khádar.		Bángar.		Khádar.		Bángar			
	Nardak.	Khádar.	Bángar.	Khádar.	Bángar.	Total.	Cultivation.	Culturable.	Cultivation.		Cultivation.		Cultivation.		Cultivation.			
Assessment, 1842-47, with cesses ...	63,233	68,229	74,150	1,61,234	2,67,777	6,34,623	1 11 7	0 7 1	2 6 6		2 6 6		2 14 2		2 10 4			
Assessment, 1856, with cesses ...	47,233	66,950	67,643	...	...	6,10,837	1 4 7	0 5 3	2 5 9		2 3 1		.		—			
Current demand, 1876, with cesses ...	49,160	65,875	69,269	1,69,527	2,70,015	6,23,846	1 4 3	0 5 10	2 4 7		2 2 10		2 13 2		2 11 11			
New assessment, with cesses ...	40,876	62,937	80,960	1,80,401	2,84,285	6,49,459	1 0 10	0 4 11	2 2 11		2 8 5		3 0 0		2 14 3			
Assessment of 1842-47 ...	58,548	63,175	68,656	1,49,290	2,47,939	5,87,608	1 8 4	0 7 0	2 3 7		2 3 7		2 12 5		2 7 3			
,, ,, 1856 ...	42,890	61,422	62,058	..	..	5,63,599	1 1 9	0 4 0	2 0 2		...		..		...			
Current demand of 1876 ...	42,163	57,034	59,973	1,46,777	2,33,779	5,39,726	1 1 5	0 5 0	1 15 8		1 14 2		2 6 9		2 5 8			
New assessment ...	34,040	52,086	67,420	1,50,230	2,36,740	5,40,516	0 14 0	0 4 1	1 12 11		2 1 8		2 8 0		2 6 6			
Revenue rates demand { Sanctioned ...	33,497	51,835	63,114	1,51,112	2,41,569	5,41,127	0 13 10	0 4 1	1 12 10		1 15 9		2 7 10		2 7 3			
Revenue rates demand { Proposed ...				1,53,740	2,63,238	5,65,424							2 8 6		2 10 2			
Produce estimate ...	31,598	50,712	65,097	1,51,297	2,66,973	5,65,677	0 13 1	0 3 10	1 12 2		2 0 9		2 7 10		2 11 0			
Rent ,, ...	31,509	52,240	65,500	1,46,782	2,64,375	5,60,406	0 13 0	0 3 10	1 13 0		2 1 0		2 6 8		2 10 7			
Percentages.																		
New on last assessment. { With cesses ...	86·5	94·0	119·7	111·9	106·2	106·3												
New on last assessment. { Without cesses ...	79·4	84·8	108·6	100·7	95·5	95·9												
New on current demand. { With cesses ...	83·2	95·6	116·9	106·4	105·3	104·1												
New on current demand. { Without cesses ...	80·7	91·3	112·4	102·4	101·4	100·2												
Assessment on revenue rates demand ...	101·6	100·5	106·8	99·4	98·1	99·9												

NOTE.—The new assessment includes estimated owner's rates as follows:—

			Rs.
Nardak —	...	...	895
Karnál Khádar	...	...	1,825
Karnál Bángar	...	...	26,880
Pánipat Khádar	...	...	900
Pánipat Bángar	...	...	73,330
Total		...	1,03,830

Statement showing General Results of the Assessment in Rupees.

	Mandal Tract.			Other Villages.		Whole Tract.		
	Revenue assigned to Mandals.	Revenue assigned to others.	Revenue not assigned.	Revenue assigned.	Revenue not assigned.	Revenue assigned.	Revenue not assigned.	Total Revenue.
Assessed revenue ...	57,042 8 0	3,527 8 0	100	33,104 8 0	3,42,746 8 0	93,674 8 0	3,42,846 8 0	4,36,521 0 0
Deduct fees of *zaildárs* and chief headmen.	899 8 0	33 0 0	1	449 0 0	6,206 8 0	1,381 8 0	6,207 8 0	7,589 0 0
Deduct quit-rent ...	10,000 0 0	126 0 0	...	3,091 7 0	...	13,217 7 0	...	13,217 7 0
Balance ...	46,143 0 0	3,368 8 0	99	29,564 1 0	3,36,540 0 0	79,075 9 0	3,36,639 0 0	4,15,714 9 0
Add quit-rent ...	126 0 0	...	10,000	...	3,091 7 0	126 0 0	13,091 7 0	13,217 7 0
Net fixed revenue ...	46,269 0 0	3,368 8 0	10,099	29,564 1 0	3,39,631 7 0	79,201 9 0	3,49,730 7 0	4,28,932 0 0
Add estimated owners' rates*	...	...	14,595	...	89,235 0 0	...	1,03,830 0 0	1,03,830 0 0
Total income ..	46,269 0 0	3,368 8 0	24,694	29,564 1 0	4,28,866 7 0	79,201 9 0	4,53,560 7 0	5,32,762 0 0

* The owner's rates of the Mandal and certain other revenue-free villages have since been assigned to the revenue grantees.

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Resumé of the assessment. The Nardak.

The following pages, taken from the report, form a compendious description of the assessment :—

We have in the Nardak a high arid tract of scanty rainfall, held by a population which largely supplements agriculture by cattle farming, and having only 27 per cent. of its area cultivated. Of the cultivation, 9 per cent. is irrigated by wells, while 3 per cent. is protected by, and 1½ per cent. ordinarily watered from, the canal. Only 5 per cent. is manured. Nine per cent. of the cultivation is held by alien landlords, 60 per cent. by Rájpúts and Gújars, and only 31 per cent. by Játs and Rors. These last are chiefly found in the fringing villages of the tract, which, though the soil is distinctly inferior, have water at a moderate depth. These villages constitute only a sixth of the total area, but comprise two-sevenths of the cultivation, of which 32 per cent. is irrigated, including all the canal land. The remainder of the tract constituting the Nardak proper, and principally held by Rájpúts, has only 5 per cent. of its cultivation irrigated, water being at a depth of 90 to 140 feet; the crops are therefore entirely dependent upon an uncertain rainfall averaging less than 18 inches, while the great stiffness of the soil enhances the eminently precarious nature of the yield. Thus of the last 40 crops, 16 have failed almost completely. Ninety-two per cent. of the whole cultivated area is under inferior sorts of grain, the yield of which, on the average of a number of years, is only sufficient for the subsistence of not quite two-thirds of the whole village population. At *least* 15 per cent. of the cultivation is in the hands of tenants paying no rent to the owners, while strangers own or hold in mortgage 9 per cent. more. There is an ample supply of cultivators; and agricultural appliances are, considering the inferior nature of the cultivation, fairly equal, over the whole tract, to the area under the plough; though the fringing villages have been much crippled in this respect by the cattle epidemic of 1869. The existing cultivation, if not supplemented by the produce of cattle, would be quite unequal to the needs of the population; but, though all the low-lying ground is already cultivated, there is ample room for expansion in the higher and drier soils.

The circle was held till 1849 on grain collections : an assessment was then made which was never realised; and the reductions effected in 1852 being insufficient, the greater part of it was held in direct management, or rather mismanagement, till 1856, when a reduction of more than 30 per cent. was made in the demand. Since then the revenue has been, except in years of actual famine, collected, though with great difficulty and irregularity. Early figures afford no trustworthy basis for a comparison; but it is probable that, setting aside the extraordinary seasons of 1873-75, cultivation has not materially increased since 1847; while the wells have decreased in number by 28 per cent. on the whole, and 42 per cent. in the Nardak proper. Meanwhile the population is multiplying rapidly. The cost of production has increased largely; but while the average yield has probably not sensibly altered, prices have risen by a quarter. The people are still, as Mr. Lawrence described them to be in 1843 "the poorest in the district;" their herds, which form their mainstay in bad seasons, have been terribly diminished by the cattle epidemic

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Resumé of the assessment. The Nardak.

of 1869, and are now suffering greatly; most of the estates are impoverished; there is no hope of consideration being ever shown them by the Mandals, and therefore no hope of any consideration except when distress rises to a pitch which justifies the district officials in interfering. It was very necessary to give the Nardak villages very general relief in the shape of reduction of assessment.

In this circle a reduction of 19·3 per cent. has been given in the current demand, which additional cesses, amounting to 12 per cent. on the revenue imposed since last Settlement, have reduced to 16·8 per cent. on the whole burden as it stood in 1876, and to 13·5 on that of 1856. The demand so imposed forms 101·6 per cent. of the assessment at sanctioned rates, and 108·1 and 107·7 per cent. of those given by rent and produce estimates respectively. The relief afforded by redistribution of the demand over the individual villages, has perhaps been even greater than that afforded by the general reduction, and was even more urgently needed. The all round rate on cultivation is still 10 per cent. higher than that imposed in 1860 upon the neighbouring and similar villages of the Kaithal and Indrí *parganahs*.

Resumé of the assessment. Pánípat Khádar.

In Pánípat Khádar we have a tract of which 59 per cent. is under cultivation. The soil is for the most part fertile, especially when carefully tilled, but a considerable portion is very sandy and poor, and 2½ per cent. is exposed to flooding by the river. Its lightness and the nearness of the water reduce the labour of agriculture; and 74 per cent. of the cultivation is protected from drought by canals and permanent wells, while 11 per cent. is partially protected by temporary wells; the crops are, however, exceedingly liable to damage by excess of moisture: 32 per cent. of the cultivation is manured. The mass of the cultivation is carried on by the proprietors themselves, but *at least* 11 per cent. of it is in the hands of very small tenants who pay no rent to the owners; and strangers own or hold in mortgage 4½ per cent. of it. Thirty-eight per cent. of the cultivated area is in the hands of the best, and 33 per cent. in those of the worst cultivators in India; while the remainder is with castes but little better than the Gújars. Agricultural appliances are fairly equal, and cultivators more than equal to the area under the plough; but the cattle are not sufficient to enable full use to be made of the existing means of irrigation. The population, especially in Játvillages, is disproportionately large, even to the verge of distress, and the sub-division of holdings is excessive.

After cruel over-assessment which impoverished the Játs and drove away the others, gradual but insufficient relief was followed at the end of 25 years of suffering by an assessment which, though light only by comparison, was fairly distributed, and must be said to have worked distinctly well. During 35 years of this assessment the people have been free from distress, except such as has been caused by famine; the cultivated area has increased by 9 per cent., and has in a large number of villages, and notably in the best ones, almost reached the limit of profitable expansion; while the population is rapidly increasing. The cost of production has increased largely, and the average yield must have somewhat decreased; but prices have risen by a quarter, and agricultural appliances have fully kept pace with the cultivation. The people of the tract may be said, in general, to be prosperous, though not inordinately so; but many of the Gújar villages, and some Ját ones

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Resumé of the assessment. Pánípat Khádar.

in which sufficient reduction was not given in 1842, required relief, though not in any large degree. Some of the Gújar and many of the Ját villages have naturally had their demand enhanced, though, on the whole, increase in the assessment is smaller than that in the cultivation; and in some villages, where the advance made has been very great, it has been thought inadvisable to realise the full demand at once. In this circle the demand has been enhanced by 2·4 per cent., while additional cesses imposed have raised the total increase to 6·4 per cent. on the burden of 1876, and to 11·9 per cent. on that of last Settlement. The new assessment is 99·4 per cent. of that given by Mr. Ibbetson's sanctioned rates, and 2·3 per cent. in excess of rent, and 0·7 per cent. below his produce estimates. At the same time the incidence of the burden has been redistributed so as to afford much-needed relief to many of the estates which had, from various reasons, become impoverished.

Resumé of the assessment. Karnál Khádar.

This tract is, in many respects, the exact antithesis of the Nardak. The soil in general in not infertile, and well repays careful cultivation; though without it its yield is small, and a considerable portion of it is always very sandy and poor. Eleven per cent. of it is liable to most destructive inundation by the river, while the whole northern corner has been seriously damaged by *reh* and swamp from the canal and its escape—evils which are slowly increasing. The lightness of the soil and the nearness of water reduce the labour of agriculture to a minimum. Of the cultivation 64 per cent. is irrigated from permanent wells, which, however, can only water some 72 per cent. of this area in any one year; temporary wells partly protect 4 per cent. more, and 22 per cent. of the whole is manured. Tenants hold, *at least*, 23 per cent. of the cultvation, most of whom pay only a nominal rent to the owners; while strangers own or hold in mortgage 9 per cent. more. Only 18 per cent. of the cultivated area is in the hands of good cultivators, while the remainder is held by quite the worst in India, 6 per cent. of the owners abstaining from manual labour of every sort. Appliances and cultivators alike are barely equal to the needs of the cultivation, being abundant in the Ját and Ror villages, but in marked defect in the others; the appliances for irrigation also are specially insufficient. The population, especially in Ját villages, is disproportionately large; and as it is increasing rapidly, while there is little or no room for profitable expansion, and as the relief now afforded by cultivation in other villages will gradually be withdrawn, distress must certainly ensue even if it be not already present. The sub-division of holdings caused by over-population is enhanced by the adhesion to the Muhammadan law of inheritance of a considerable Saiyad community.

About a quarter of the tract was held in direct management by the Mandals; till the Settlement of 1847, the remainder suffered for 25 years cruel over-assessment, and the relief afforded in 1842 was found to be insufficient. Throughout the whole tract the demand has had to be reduced considerably since Settlement. Meanwhile, though the cultivation has increased by some 4 per cent., the masonry wells have slightly diminished in number, while 6 per cent. of the irrigation, the most important element in Khádar cultivation, has deteriorated from permanent to temporary. The cost of produc-

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Resumé of the assessment. Karnál Khádar.

tion, has increased largely, and the average yield must have somewhat decreased, but prices have risen by a quarter since Settlement. The Játand Ror villages are on the whole prosperous, except where the pressure of population is unusually great; but some of the Tagá, many of the Rájpút, and all the Saiyad villages, were greatly impoverished, and sadly needed relief. In this circle a reduction of 6·7 per cent. on the current demand has been given, which the imposition of new cesses has reduced to a relief of Rs 4-4 per cent. on the total burden. The demand so increased forms 100·5 per cent. of that given by the sanctioned rates, and 99·7 and 102·8 per cent. respectively of the rent and produce estimates. A re-distribution of the demand was urgently called for and while in many prosperous villages the assessment has been raised, much-needed relief has been granted to a still greater number.

Resumé of assessment. Pánípat Bángar.

In Pánípat Bángar we have a tract of which 52½ per cent. is cultivated, 1½ per cent. has been lately thrown out of cultivation, because it is either absolutely unculturable or only culturable in an unusually dry year, 29 per cent. is positively barren, and the remaining 17 per cent., which is shown as culturable, includes a good deal of land which is really not worth the labour of tillage. The soil is naturally most fertile, and when not exhausted by over-cropping and not deteriorated by external causes, yields crops of the most splendid luxuriance. But the faulty alignment of the canal and its distributaries and the excessive irrigation practised have water-logged the country, and called into existence two terrible evils—saline efflorescence and swamp or soakage—which have not only rendered absolutely barren thousands of cultivated acres, but have seriously diminished the fertility of much of the remaining cultivation; while a system of ruinous over-cropping, partly due to the decrease in cultivation, and partly owing to the system of assessment adopted, has enhanced the deterioration. Seventy-seven per cent. is protected from drought by an irrigation which, though often uncertain in supply, yet can never altogether fail, and which is obtained with little or no labour and at a very moderate cost; twenty-one per cent. is manured. More than seven per cent.* of the cultivation is in the hands of the Skinners, and is cultivated by tenants at a rack rent, usually of the most cruel nature. Of the remainder the greater part is cultivated by the owners themselves, but 6 per cent. at the *very least* is held by tenants in excessively small holdings, while strangers' own or hold in mortgage 3½ per cent. Fifty-four per cent. of the cultivation is owned by Játs, and 18 per cent. by Rors, who are almost as good: the Skinners own 7 per cent, and the remaining 21 per cent. is held by Gújars, Rángars, and other equally bad cultivators. The cultivators are on the whole equal to the area under the plough; but the agricultural appliances are not only insufficient, but are badly distributed, being most scanty where most needed. The population in the injured villages is excessive, and is being rapidly decreased by emigration while the cultivated area is already largely supplemented[1], and held in a neighbouring native state.

The early assessments were exorbitant, but the spread of canal irrigation and increase of cultivation were attended by a gradual reduc-

* NOTE.—Excluding villages the farm of which has now lapsed.

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Resumé of assessment. Pánípat Bángar.

tion of the demand; and in 1842, when canal irrigation had nearly reached its maximum, and the tract had, as Mr. Sherer says, "obtained "its highest point of prosperity," a very moderate assessment seemed to secure it from the possibility of distress. But from 1850 up till now the history of a very large portion of the tract has been one of deadly sickness, decreasing cultivation, and diminishing fertility; and the relief afforded has been tardy and insufficient. While on the whole the cultivation has remained stationary, an increase in some villages of 16 per cent. has been counterbalanced by a loss of as much as 25 per cent. in many others; the population has throughout advanced upon the cultivated area, and in a large portion expansion is impossible, and further diminuation of cultivation almost a matter of certainty. The cost of production has increased largely, and the cost of canal irrigation enormously, while the average yield has diminished, and prices have only risen by a quarter. While the high villages which have not suffered are in the most prosperous condition, the estates which have been most severely stricken by swamp and *reh* are in the most pitiable state; and the villages of the tract include examples of stages intermediate between the two extremes.

In this circle the demand has been increased by 1·4 per cent., while additional cesses raise the enhancement to 5·3 per cent. on the total burden of 1876 and to 6·2 per cent. on that of last Settlement. The demand is 98·1 per cent. of that given by sanctioned rates, and 89·6 and 88·7 per cent. respectively of the rent and produce estimates. While many of the finest villages have had their demand very considerably enhanced, liberal relief has been granted to the injured villages. And especially the separation of a portion of the demand in the form of owner's rates has for the first time rendered it possible for those villages to reduce their irrigation in which that irrigation was most extensive, and its excessive nature most deleterious. It is probable that this reduction of irrigation will somewhat reduce the revenue of the circle below the estimates; but the water thus set free will be available in the Nardak or elsewhere, where it will bring in the same revenue as it would have done in this circle; while its transfer from a swamp-stricken to a thirsty tract will be an unmixed benefit to both.

Resumé of assessment. Karnál Bángar.

Of Karnál Bángar 47½ per cent. is cultivated, 1½ per cent. is tottering on the verge of barrenness, 27 per cent. is absolutely barren, while of the 24 per cent. entered as pasture, much is really not worth the labour of tillage. The soil, in all the lower parts of the tract, is naturally fertile, and when fairly treated, and not deteriorated by external causes, yields crops as fine as could be desired. But the terrible evils of *reh* and swamp, which have thrown hundreds of acres out of cultivation, have forced the people to replace the loss, where possible, by bringing under the plough high arid tracts characterised by most of the features of Nardak cultivation; and, where this was impossible, to exhaust their remaining fields by a system of the most ruinous over-cropping. These evils are ever increasing; and if they are, in their present degree, of later date in Karnál than in Pánípat they are in one respect more injurious, inasmuch as they more often hold out delusive hopes which lead to much fruitless

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Resumé of assessment. Karnal Bángar.

expenditure of seed and labour. Seventy per cent. of the cultivation is protected from drought by an irrigation which, though often uncertain in supply, yet never altogether fails, and is obtained with little labour and at a very moderate cost: 22 per cent. is manured. Tenants paying no rent to the owners hold at least 24 per cent. of the cultivation, while strangers own or hold in mortgage 6 per cent. more; Játs and Rors cultivate 54 per cent., the remainder being held by Rájpúts and the like. The cultivators are on the whole equal to the area under the plough; but the agricultural appliances are insufficient, while both are badly distributed, being most scanty where most needed. The population in the injured villages is excessive, and is already being decreased by emigration chiefly, at present, of the non-cultivating classes.

More than a third of the tract was held by the Mandals in direct management till 1847, when it was assessed fairly enough; as the remainder also had been, after a period of exorbitant over-assessment, in 1842. But from 1850 till now, the history of almost every village in the tract has been one of deadly sickness, increase of swamp, and diminution of fertility. On the whole, cultivation has increased by 6 per cent. but the area has been largely kept up by the substitution of bad land for good; while the irrigation, which has increased still faster, has, with the exception of three villages, mainly extended where it was least wanted. Nine villages have lost 26 per cent. of their whole cultivation; eight more have lost 11 per cent.; increase has taken place in seven villages only; population has throughout gained upon the cultivated area; while not only is expansion impossible in those villages in which it is most needed, but the productive area will contract year by year. The cost of production has increased largely, and the cost of canal irrigation enormously, while the average yield has very greatly diminished, and prices have only risen by a quarter. The villages may be classified as were classified those of Pánípat and it is enough to say that while the first class includes four villages only, and one of those overpeopled, the third and worst class comprises most of the estates, if not most of the cultivation, in the circle. In the villages where progress has been made, it was impossible to enhance the demand in anything like the same proportion, as almost the whole increase in cultivation was confined to two villages which now cultivate 7,905 acres against 4,270 at Settlement; and it is evident that their assessment could not be doubled.

In this circle the demand has been enhanced by 12·4 per cent., an increase which 12 per cent. of additional cesses imposed since 1847, raised to 16·9 per cent. on the burden of 1876, and to 19·7 of that of last Settlement. This demand is 106·8 of the demand given by the sanctioned rates, and 102·9 and 103·5 per cent. of Mr. Ibbetson's rent and produce estimates respectively. The detailed assessment has conferred the same boon in this circle as in Pánípat Bángar; but the benefit of the separation of the owner's rates will be even more valuable here than in that circle, in proportion as the swamp is more extensive.

The owner's rate system.

Up to the revision of settlement, the canal irrigated land had been assessed exactly like any other land, a full assessment being realised year by year. This led to over-irrigation, and at the revision the owner's rate system was introduced, by which a portion of the revenue

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The owner's rate system.

takes the form of a rate, called the owner's rate, which is realised in any year, only on land irrigated from the canal in that year. After much discussion it was decided that this rate should, on the Western Jamná Canal, be fixed at half the occupier's rates, or rates charged by the Canal Department for the water they supply. The Canal Act under which these rates were imposed, had declared that they should not exceed the assessment leviable on the increase in value of the land due to canal irrigation; and an impression had thus been created that whole assessment thus leviable was to take the form of owner's rates, the remainder or fixed assessment being assessed on the land in its dry aspect, and payable from it without any irrigation whatever. But the owner's rates, being fixed by Government could not possibly represent an assessment, the amount of which must necessarily vary with the circumstances of each village. The real nature of the assessment made is shown by the following extracts from Mr. Ibbetson's report. The subject is one of especial importance in the district of Karnál :—

Nature of the fixed demand.

"It is obvious that fixing positively the amount of the owner's rates at once does away with the principle of dividing the total demand upon the village into a fixed demand representing half the unirrigated rental, and an owner's rates demand estimated to represent half the additional rental due to irrigation; in other words, that the demand announced to the people is a *fixed*, but not a *dry* assessment. Thus, directly this point was decided, it became necessary to reduce the unirrigated rate for canal land in Karnál Bángar from Re. 1-10 to Re. 1-5; for as the land was to be assessed at an all-round rate of Rs. 2-4, and as half occupier's rates averaged As. 15 an acre, only Re. 1-5 remained to represent the fixed demand, though Re. 1-10 of course represented as before the true dry demand. It is because I wish specially to bring out this point forcibly and clearly, that I have dwelt upon the nature of my original proposals, and upon the orders passed on them. Those proposals were framed on the understanding that I was bound to fix in all cases a true dry assessment, added to which the varying owner's rates would give the total assessment. The final decision was, that the owner's rates were to be fixed; and that in cases in which those fixed rates would probably fall short of or exceed the true additional demand due to irrigation in each village, the difference was to be added to or deducted from the fixed part of the demand. The latter method is far more uniform and simpler in its working; the only difficulty it presents is the necessity for revision of the fixed demand in certain villages, in the event of the supply of water being materially circumscribed or the rates materially enhanced; and in very many villages there is practically no difference between the fixed demand arrived at under it and a true dry demand. All I wish to insist upon is, that the fixed demand is by no means *necessarily* a dry demand; and that the circumstances of the individual village must be examined before it can be assumed that no enforced reduction in irrigation will affect the ability of the village to pay its fixed demand. And it is necessary to insist upon this point, because the canal officers are most properly aiming at a gradual reduction of the excessive irrigation which is too common in the tract, and they have understood that the new demands are *bárání* or dry demands, and that they may accordingly set them wholly aside in considering the question of irrigation.

The detailed assessment.

"Thus the general principle on which the detailed assessments have been framed is as follows :—The total burden which a village can bear

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has first been assessed on the old principle, without any reference to owner's rates. The probable amount which the village will have to pay in the form of owner's rates has then been deduced from the figures for past occupier's rates, viewed in the light of the present circumstances of the village, and the difference betwen the two amounts has been announced as the fixed demand. Take two extreme instances: suppose two villages, *A* and *B*, each consisting of 1,000 acres of canal irrigated land on which they pay the flow rate of Rs. 2-4; the former, one of the finest of the high Pánipat villages, raised well out of the reach of *reh* and swamp, and held by a large and wealthy Jat community; the latter, a low-lying swampy village in Karnál, with *reh* in its borders, and owned by a depressed Rájpút community. *A* will yield, after deducting all costs of cultivation except canal rates, a surplus of some Rs. 8,000; leaving, after paying Rs. 2,250 as occupier's rate, a rental of Rs. 5,750 upon which to assess, without irrigation, the rental would be at the most Rs. 2,000. *B* with irrigation will yield a surplus, as before, of Rs. 6,000 at the most, leaving, after paying occupier's rate, a rental of Rs. 3,750 upon which to assess: without irrigation the rental would be perhaps Rs. 2,500.

	Village A.	Village B.
Total assessment	Rs. 2,875	Rs. 1,875
Half occupier's rate ...	,, 1,125	,, 1,125
Difference, or fixed demand announced	,, 1,750	750
True dry demand	,, 1,000	,, 1,250

or, if *A* irrigates by lift only—

	Village A.	Village B.
Total assessment	Rs. 2,875	Rs 1,875
Half occupier's rates ...	,, 750	,, 1,125
Difference, or fixed demand announced	,, 2,125	Rs. 750
True dry demand	,, 1,000	,, 1,250

"In the case of *A* and similar villages the difference of Rs. 1,750 or Rs. 2,125, according as the irrigation is by flow or lift, has been announced as the fixed demand; but, as the true unirrigated assessment of the village is only Rs. 1,000, it is obvious that the fixed demand really includes a large portion of the demand due to irrigation, and could not possibly be paid if the irrigation were appreciably reduced. And the figures of the example are by no means exaggerated, though of course such villages are exceptional. Take the village of Isráná, the most marked example in the tract. It cultivates 2,250 acres, of which it irrigates only half, and that wholly by flow, and it has no wells. I assessed it at Rs. 7,500; and as half occupier's rates only amounted to Rs. 1,300, I announced a fixed demand of Rs. 4,400. But without irrigation it most certainly could not pay more than Rs. 2,250 Applying the same method to village *B* we find ourselves confronted by a new difficulty, for the fixed demand given by the figures is only Rs. 750, while the true dry assessment is Rs. 1,250. Thus, if we announce Rs. 750, the village has only to relinquish irrigation to pay Rs. 500 less than it ought to pay to Government; and here too the figures of the example, though representing very exceptional cases, are so far from being exaggerated that they actually fall short of the facts in some villages, where half average occupier's rates actually *exceeded* the total assessment which I thought the village able to bear, so that the fixed demand given by my figures was a minus quantity.

"The fact is that the figures for occupier's rates, based as they are upon the actual payments made by each village between 1866 and 1875, are not, in the swampiest villages, a wholly satisfactory basis for an

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The detailed assessment.

estimate of the probable future owner's rates demand. In the first case they include a râte called *sailábí*, which has hitherto been charged upon spring crops not themselves irrigated from the canal, but immediately following rice which has been so irrigated; and in very bad villages where nothing but rice will grow in the autumn, and spring crops must be sown after it for fodder, this rate forms an appreciable proportion of the whole, in somuch that in some of the worst villages the average area on which water rates had been levied was 130 per cent. of the whole cultivated area. Again, the figures include water rates paid upon a certain area of land which has since become unculturable owing to the spread of *reh* and swamp; and finally, there can be little doubt that in many moist villages the enhanced cost of irrigation, under the new system will lead the people to contract their irrigation, in some cases probably to a considerable extent. At the same time it was, as pointed out by the Financial Commissioner in his orders upon my Pánipat Report, necessary to exercise "great "caution in calculating in advance on the discontinuance of the use of "canal water in water-logged villages in consequence of the lightness of the "fixed assessment." The soil of such villages has been described as a sponge which holds up the plants, while they draw such nutrition as they do derive from the canal water alone; and the description is exaggerated rather than untrue. Moreover, many of the worst villages are so wet that nothing but rice can be grown in the autumn; and though, when the rains set in, water is plentiful without irrigation, yet canal water must be taken to start the crop; and when once taken, full rates are charged. These considerations are much less forcible in those few villages in which a good many wells still exist in fairly good order, irrigation from which could be substituted for irrigation from the canal. But even here, too much stress must not be laid upon the existence of the wells; for it will in many cases need both time and capital to put them in working order, and to procure the oxen necessary to work them.

"To meet these cases I adopted the two following principles: *first*, that the fixed demand should never fall below such a moderate dry demand as I felt certain the village could pay, even if irrigation were wholly denied it; *secondly*, that though the greatest caution was needed in discounting beforehand a probable decrease in irrigation, yet in villages whose history and circumstances rendered it practically certain that irrigation would in future reach the old figures, only in the event of such a reduction of swamp and consequent improvement in the condition of the village taking place as would fully compensate for the increased burden, it was not only possible but necessary to make allowance for the facts, and to raise the fixed demand, even when it was already above the true dry demand, to a higher figure than that obtained by the deduction of half the full occupier's rates of past years. The application of the first principle was called for in only a very few villages; the second was more often applied, especially in Karnál, but even there the villages falling under it were comparatively few.

"And as so large a portion of the fixed demand is so often an assessment on irrigation, I have, in accordance with the directions of the Financial Commissioner, carefully reviewed my assessment of each village of the canal tract, have estimated roughly how much of the fixed demand I consider to be assessed on the present irrigated area, have tabulated this assessment, its incidence upon the canal area, the area shown as canal irrigated, and the average past irrigation, and have classified the villages according as reduction of irrigation might be made to a greater or less extent without entailing reduction of demand. The general result was that in 23 villages the fixed demand could be paid without irrigation

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at all; in 43 more, irrigation might be very considerably, and in 13 more less largely circumscribed without necessitating revision of assessment; in 21 more any very material reduction of irrigation would call for corresponding relief; while in the remaining 36 the fixed demand was so high that it could not be paid in full unless the supply of water was kept up, practically speaking, to the present standard.

Five-yearly revision of assessment.

"Under these circumstances the Financial Commissioner suggested that it might be well to settle the canal tract for 15 years only. On general grounds, the shortening the term of Settlement was of course objectionable if it could be avoided, and the Government finally directed that the term of the Settlement should be for 30 years; but that Government should reserve discretion to revise at the end of each five-yearly period the assessment of those villages in which the fixed demand fell short of the true dry assessment of the village. As already explained, I had endeavoured so to frame my assessments that in no village should the fixed demand fall below a moderate dry assessment. But when re-considering the assessment of each canal village in connection with the question to be discussed presently of future reduction of canal irrigation, I selected the five villages of Begampur, Rer and Kutáná in *tahsíl* Karnál, and Báholi and Wazírpur Titáná in *tahsíl* Pánípat, and inserted in their administration papers a clause securing to Government the power of five-yearly revision. They are all swampy villages of the most aggravated description, in which the cultivators have been reduced to abject poverty by injury from the canal unaccompanied by sufficient relief; and in assessing them I had been obliged to consider what they could pay in their present abnormally depressed condition, while leaving room for them to recover themselves. I do not think it would have been wise to have demanded, in the first instance, more than the very moderate fixed demand I imposed; but it is almost certain that they will improve rapidly under a moderate assessment, and especially if, as is probable, the realignment of the canal relieves them of their swamps; and that their assessment is lower in relation to their mere physical capacity than that of any other villages in the tract."

Incidents attached to owner's rates.

It has been provisionally decided, subject to the final orders of the Government of India, that all cesses will be levied upon owner's rates as though they were land revenue. It has also been ruled that no allowances to *zaildárs* or chief headmen will be made out of this rate. It has been decided that owner's rates, not being land revenue, go to Government, whether the land on which they are levied is assigned or not. But the Panjáb Government, in its No. 1365 of 18th December 1879, sanctioned the exemption from these rates of all canal irrigated land in the city of Pánípat on the ground that the city lands, which are held either revenue-free or on a quit rent, enjoyed canal irrigation at the time of the granting; and the same principle has been extended to the Mandals and other assignees, the owner's rate of all revenue-free villages which were irrigated from the canal during the currency of the Regular Settlement, going to the assignees for the term of the revised Settlement.

PART III.—GENERAL.

Cesses.

The cesses are as follows:—

Local rates	...	Rs. 8	5	4	School cess	..	Rs. 1	0	0
Road cess	.	,, 1	0	0	*Lambardárí* cess,		,, 5	0	0
Postal ,,	..	,, 0	8	0	*Patwárí* cess		,, 4	4	0
							20	1	4

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Land and Land Revenue.

Diluvion.

These are percentages levied on the fixed revenue and owners' rates. The local rates have been fixed by legislative enactment.

Under the Regular Settlement the 10 per cent. rule was in force; and as it was unaccompanied by any provision for distributing the loss caused by diluvion over the community, and as land newly thrown up is invariably the common property of the village, even when found on the spot where the land of an individual has just been cut away, the result was that great hardship was inflicted upon particular landowners, who often lost a large proportion of their land, but could obtain no relief because the injury did not amount to a tenth of the whole assessed area of the village. In accordance with the orders of Government, each case of gain and loss will in future be considered without limit as to extent.

Assignments of land revenue.

Table No. XXX shows the number of villages, parts of villages and plots, and the area of land of which the revenue is assigned, the amount of that revenue, the period of assignment, and the number of assignees for each *tahsíl* as the figures stood in 1881-82. Very nearly one-fourth of the whole land revenue of the district is assigned. The principal *jágírdár* families have already been noticed in Section F of Chapter III. The revenue-free holdings of the Dehli territory being released under the regulations, or in accordance with their spirit, are subject to rules wholly different from those which govern similar tenures in the remainder of the Panjáb. The peculiar assignments which we took over from the Sikhs in the Cis-Satlej tract, known as *chahâramís* and horsemen's shares, are described in the Ambála Gazetteer. Within a very few years of the establishment of English rule, the revenue-free tenures of the Pánípat district came under investigation. The claims brought forward were numbered by thousands; forged grants manufactured at Dehli found a ready sale in the tract; there was hardly a village in which assignments of revenue were not asserted to have been made; good land was claimed in the place of bad in the most unblushing manner, and the revenue recovered by Government on land resumed as having been held free on invalid titles amounted to same Rs. 20,000 annually. The investigation dragged on in a very dilatory manner, and may be said to have been only really concluded during the recent Settlement.

Assessment of assigned revenue.

At first no sort of settlement was made of any land of which the revenue was assigned, the assignee being left to collect rent from the owners. So long as the Government practically took the whole rent in the shape of revenue, this omission was of no importance; in fact, the owner of such land was better off than he who owned land assessed to Government revenue, for the former paid a demand varying with the seasons, the latter, a fixed demand of excessive severity. But as the Government revenue became gradually so limited as to leave a margin of profit for the owner, attention was attracted to the fact that unless we interfered between the owner and assignee so as to secure to the former the same margin of profit which he would have enjoyed had the revenue of his land not been assigned, we were doing him an injustice, and conferring on the assignee larger rights than we claimed for ourselves, and therefore larger than we had it in our power to alienate. This view appears to have been first authoritatively accepted for this part of India in 1830, when the Sadr Board pointed out that

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Land and Land Revenue.

Assessment of assigned revenue.

'where the assignment had been made by the British Government, it 'could have had no intention to inflict injury on all the resident 'proprietors of the *parganah*, or to compromise the rights the mainte- "nance of which had been pledged to them in common with their fellows "throughout the country, by Regulation XXV of 1803; and that "Government had always declared that in granting *jágírs* or other "lands they merely proposed to assign away their own revenue, and "not the rights of the people. That Government would also appear, "though somewhat tardily, to have at last received the conviction that "the only way in which the ruling power could do its duty and secure "the rights of the proprietors in such cases, was to come forward and "make similar arrangements on behalf of the assignees of these revenue- "free holdings as it makes with communities paying revenue to "Government."

But the Board went further than this, and extended the same principle to *all* assignments including such as had been granted under native governments, and only confirmed by the British. It remarked :—"The same rule appears to the Board to hold good as "regards all free holdings and wherever a resident occupant community "are found in possession of land assigned as rent free, they should, "as provided by section 17 Regulation VII of 1822, have similar terms "made in their behalf with the Government assignee as the people of "the neighbourhood obtain directly from Government." The Lieutenant-Governor, N. W. P. accepted these principles in his No. 1058 of 9th August 1839; he pointed out several capital instances in which they had already been acted upon, and remarked that he "believed "that every rent-free holding, small and great, had been already sub- "jected to this process in the districts in which the revised Settlements "had been concluded." Upon this the Board remarked that "the "principle had thus been declared applicable to every rent-free holding, "small and great," called for a report at once upon the larger holdings, and remarked that "the smaller holdings would be dealt with as the "investigation into revenue-free tenures was completed for each district." The principle was embodied in § 117 of the Directions to Settlement Officers, and the Settlement of the Mandal tract was effected in accordance with it in 1847.

Previous Settlements of assigned revenue.

In the Settlement of 1842, the Settlement Officer proposed to settle villages of which the revenue had been assigned, together with the Government villages of *parganah* Pánípat. But he was directed by the Board not to interfere, as it was "not the wish of Government "that sub-settlement should be made with the proprietary communities "in *maáfi* estates." Accordingly, no records were prepared, and the assignees continued to realise rent till 1850. The omission to make a proper Settlement was then brought by petition to the notice of Government, which called for a report, and remarked that "if the "rights in confirmed revenue-free villages in the Dehli division have "hitherto remained undetermined, it is time that this state of things "should cease." The Board reported on the question, which in that tract concerned only grants made by former governments and confirmed by us. The Senior Member held strongly that the native government which had made the grant had put the assignee in the position of landlord with the power to collect rents; and that it was

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Previous Settlements of assigned revenue.

unjust to "form a theory" that the Government had no right to alienate the rights of the owner and to reverse an arrangement of long standing. The Junior Member pointed out that what was proposed to be done was to ascertain and record existing rights, and that the Senior Member's objection did not touch the advisability of this process. The Lieutenant-Governor agreed with the Junior Member and directed all existing rights in revenue-free holdings to be investigated and adjusted. Accordingly between 1850 and 1852, records were prepared and Summary Settlements made for all lands of which the revenue was assigned. In some few cases the demand thus fixed was so high that the owners preferred to continue the old terms; but, as a rule, the Settlements then made were acted upon up to the recent revision.

Unfortunately, too, the records were not prepared as carefully as they should have been; and the record of ownership was sometimes indefinite or entirely wanting. In some of these cases the revenue assignees of plots of land, locally called *milk* to distinguish them from assignments of villages, or share of villages claimed ownership in the recent Settlement. But their claim was entirely without foundation. Mr. Hugh Frazer wrote :—" The *milkís* in this district have not any "occasion that I am aware of laid claim to any proprietary right in the "soil. All they contend for is that share of the produce which would "belong to the State if the lands had not been alienated. This is the "opinion of every *milkí* that I have ever spoken to on the subject." Again :—" In this district the *zamíndár's* right is not only distinct "from, but scarcely ever belongs to, the person on whom has been "bestowed the Government share of the produce. From among the "hundreds of *milk* tenures which I have had occasion to investigate "during my residence in this district, I can only recollect one in-"stance in which the *milkís* claimed the *biswahdári haqq*; and in that "case a distinct *qibálah* was forthcoming."

Government lands, forests, &c.

Table No. XVII shows the area and income of Government estates; while Table No. XIX shows the area of land acquired by Government for public purposes. The cantonment lands have already been discussed in Chapter III (pages 123, 124). There are 55 estates belonging to Government of which one *viz.*, the Roharian is annually put up to auction and the others are let for the period of Settlement on certain conditions. The conditions were not complied with in many cases, and the matter is being enquired into by the settlement department as all the estates are situated in the tract under settlement.

Government rights in canal land.

Mr. Ibbetson thus describes the action taken at revision of Settlement regarding Government rights in canal land, a burning question in the Karnál district :—

"Government, in its separate departments, is in possession of a great deal of land situated in the tract, occupied chiefly by the canal channels and distributaries. But the question of ownership was more difficult. All the canal land, I think without a single exception, had been entered as property either of the village or of the individuals in the old record. Where land had been taken up and paid for by Government there was no dispute; or in the very rare cases when there was, the file was forthcoming, as no Karnál records had been destroyed in the mutiny. As regards the old distributaries, too, it was admitted that the

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people had made them themselves on their own land—a fact specifically stated by the Superintendent of Canals in his No. 334 of 5th December 1847 to Commissioner, Dehli, as a ground for refusing remission of revenue on the land so occupied,—and that though Government had, when the water rates were raised, taken over the arrangements for their clearance, yet it had acquired only possession, and not property in them. But the Canal Department claimed property in the old canal bed and banks, on the score of long possession, of inheritance from the preceding Government, and of what was described in 1827 by Captain Colvin as "a long existing custom, authorised when first acted upon, though the dates cannot be traced, affirming the right of Government, as lord paramount, to the occupation of the ancient line of water-course; declaring its bounds to extend to 10 yards from the edge of the banks; and applying equally to the line of canal, and the lines of outlets and escapes from the canal." This claim the people in most instances resisted; and we could not listen to it in the face of section 19 of the Land Revenue Act. In his No. 6501 of 6th October 1873, the Financial Commissioner directed us to ask the people, where they refused to admit the proprietary right of Government, whether they objected to the entry of a Government right of occupancy; and on our doing so, the villagers readily consented in every single instance to an entry to the effect that Government was entitled to hold the land so long as it was needed for canal purposes. This entry was accordingly made, and its meaning defined by a clause in the administration paper. In his No. 1261 of 3rd March 1879, and subsequent correspondence, the Financial Commissioner ruled that land for which no compensation had been paid was held by Government only for so long as it was needed; and that the original owners retained the reversionary right when this ceased to be the case; this being precisely the view urged all along by the people. He directed that—(1) land for which compensation had been made should be entered as Government property; (2) where no compensation had been made, the entry already described was sufficient; (3) and that even where the people had entered such land as Government property, their reversionary right should be recorded. Compensation was defined to include exchange of land, as well as each payment; and when land had been taken and payment made for the cultivated parts only, it was ruled that the payment covered the whole."

CHAPTER VI.

TOWNS & MUNICIPALITIES.

Chapter VI.

Towns and Municipalties.

General statistics of towns.

At the Census of 1881, all places possessing more than 5,000 inhabitants, all municipalities, and all head-quarters of districts and military posts were classed as towns. Under this rule the following places were returned as the towns of the Karnál district :—

Tahsil.	Town.	Persons.	Males.	Females.
Karnál ...	Karnál ...	23,133	12,626	10,507
	Kunjpura ...	4,725	2,269	2,456
Pánipat ...	Pánipat ...	25,022	12,431	12,591
	Kaithal ...	14,754	7,302	7,452
Kaithal ...	Síwan ...	5,717	2,992	2,725
	Púndri ...	4,977	2,379	2,598

The distribution by religion of the population of these towns and the number of houses in each are shown in Table No. XLIII, while further particulars will be found in the Census Report in Table No. XIX and its appendix and Table No. XX. The remainder of this chapter consists of a detailed description of each town, with a brief notice of its history, the increase and decrease of its population, commerce, manufactures, municipal government, institutions, and public buildings ; and statistics of births and deaths, trade and manufactures, wherever figures are available.

Town of Karnál.

Karnál is a municipal town and the administrative head-quarters of the district. It lies in latitude 29° 42′ 17″ north, longitude 77° 1′ 45″ east. Its population is 23,133 souls, consisting of 15,215 Hindus, 110 Sikhs, 213 Jains, 7,550 Musalmáns, 45 others. It stands upon comparatively high ground, just above the old bank of the Jamná overlooking the Khádar or lowland tract. The river now flows 7 miles away to the east, and the old Western Jamná Canal passes just beneath the city.

The town is enclosed by an old wall, immediately outside of which runs a metalled road, and has ten gates, of which the Nawáb, Kalandar and Ghazni to the east, and the Júndla to the west, are the principal ones. To the west of the town lies an extensive suburb, which was the *sadr bázár* of the old cantonment. To the north, about a mile from the town, lie the civil lines and public offices, on the site of the old cantonment. The streets of the town are all well paved or metalled, but almost all of them are narrow and

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crooked. The drainage and indeed the sanitary arrangements inside the town are fairly good. The principal buildings of antiquarian interest are—(1) Qalandar Sáhib's tomb, situated just outside and to the east of the town. The grave is made of marble, and decorated with sculpture. This tomb was built by Ghiás-ul-din, Emperor of Dehli, to the memory of Boali Qalandar (see Chapter III, page 94). The inhabitants of Pánipat, however, deny that this *faqír* was buried at Karnál, and they have a large tomb also to his memory in their town. Within the enclosure are a mosque and a reservoir with fountains built by the Emperor Alamgír, and outside, a kettle-drum balcony. (2) Cantonment Church tower.—This is a fine old massive tower, and can be seen at the distance of several miles, as it is 100 feet in height. The body of the church was dismantled after the Cantonment of Karnál was abandoned in 1841 on account of its unhealthiness from the swamps of the Western Jamná Canal in its vicinity; the materials of the church were removed to Ambála. The tower is surmounted by a large ornamental cross, and inside the tower are several memorial tablets, which were removed from the walls of the church; the entrance gate has lately been renewed.

There are two cemeteries of the late cantonment with crowded tombs bearing evidence to the terrible mortality of the troops from the ravages of swamp created maladies. The grass and jungle grow apace; in a lattice organized by the District Officer, 22 head of large game, hog and deer of different kinds, were killed in one morning within the limits of the ex-cantonment and among the bush-smothered ruins of the military buildings.

The fort of Karnál once belonged to Bhág Singh, former Rájá of Jínd. It was taken from him by the Mahrattás, and eventually came into the possession of Sardár Gurdit Singh of Ládwá. It was captured by the English in 1805 and made over by General Ochterlony to Mohamdi Khán (Mandal), grandfather of Azmat Ali Khán, the present Nawáb of Karnál. On Karnál being formed into a British cantonment, it was decided by the authorities to take over the fort, suitable compensation being made to the Nawáb. It was finally selected as a residence for Dost Muhammad Khán, Amír of Kábul, in which he was detained for about six months, on his way to Calcutta. The fort was used as a jail, as quarters for Native Cavalry, and as a poor-house. In 1862 it was made over to the Education department when the *Zilláh* (now district) school was removed into it from the city.

The city of Karnál is said to have been founded by Rájá Karna, a General on the side of the Kauravás in the war of the Máhábhárat. It would seem to have been a place of but little importance in early historical times; for while Pánipat, Kaithal and Thánesar are mentioned even by the early Arab geographers, and these towns and Samána and Sunpat are commonly referred to by the early historians, Karnál is first mentioned towards the end of the Pathán dynasty. The battle of Karnál has already been described in Chapter II, as indeed has the history of the town under the Sikhs. As a town, it owes much of its importance to Rájá Gajpat Singh of Jínd, who built the wall and fort, and under whose rule it increased considerably in

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size. Jacquemont describes it in 1831 A.D. in the following words :— "In the interior, an infamous sink, a heap of every sort of unclean-"liness. Amongst heaps of dung, brick-rubbish, and concourse of "beasts, are winding paths scarcely passable for horses, and having "here and there a few miserable huts. I have seen nothing so bad "in India; and it is fair to mention that amongst the natives its "filth is proverbial." This is very far from applying to the present state of the town, which is internally well drained and clean. The inhabitants are Játs, Ráins, Rors, and the ordinary miscellaneous mixture of Bráhmans, Baniás, Musalmáns, and menials which always collects in a city. In the *sadr bázár* live many Púrbiás and Khatíks &c., who came here with the troops, and used to find employment on the stud lands. The breeding stud has been given up for some three or four years; but Government cattle still occupy the lands.

The city of Karnál has the very worst possible reputation for unhealthiness, and not undeservedly. The canal cuts off a great loop of the Khádar to the west of the city, while to the south lies a great natural bight. The drainage of the Bángar runs over the bank, and, held up by the canal and the Grand Trunk Road, forms a huge swamp right under the city; while rice cultivation is carried on up to the very walls. When, after the increase of irrigation following upon the famine of 1833, the carrying capacity of the canal was increased to the utmost, the swamps thus formed became pestilential to a degree; and the sickness in cantonments became so great that the troops were moved to Ambála about 1844, and the cantonments finally abandoned. In 1844 rice cultivation near the city was prohibited, and remained forbidden for many years, but has since been resumed. And canal irrigation was temporarily stopped in the neighbourhood of Karnál on sanitary grounds. The raising of the canal banks, so as to stop the canal water itself from inundating the country, has done something to diminish the evil, and the realignment of the canal will no doubt still further reduce it. The civil station is protected from malaria by a broad belt of trees growing on the stud- lands, and is comparatively healthy.

The filling up of the ditch which formerly surrounded the town, and the substitution of a masonry drain, has done much to improve its sanitation. The Karna tank, situate at the north of the town, named after Rájá Karna its founder, is held in much veneration by the Hindú community. This tank was believed to add to the unhealthiness of the town by its not infrequent overflow. This has in a great measure been remedied by deeper excavation, while its margin has been embellished with masonry steps.

The opening of the railway on the opposite side of the Jamná has somewhat prejudiced the commercial position of Karnál, having attracted from it much of the commerce formerly passing along the Grand Trunk Road. The municipality of Karnál was first contituted in 1867. It is now a municipality of the 2nd class. The Committee, consists of the Deputy Commissioner as President, the Civil Surgeon and District Superintendent of Police, two Extra Assistant Commissioners at head-quarters, one of whom is Vice-President, Executive Engineer, Head Master and 12 non-official members, appointed by nomination. Table No. XLV shows the income of the municipality

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for the last few years. It is chiefly derived from octroi levied at a rate varying from 5 to 8 *páis* per rupee on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. The chief manufactures are—country cloth for local consumption, and blankets, boots and brass vessels for export. A considerable trade in leather is carried on; and there is a large population of *Chamárs* who execute contracts for harness, saddlery, boots and leather articles required by the cavalry and artillery. Skilful artificers are still to be found here, survivals from the old cantonments.

The public buildings in the civil station are Deputy Commissioner's Court, Treasury, Police station, Police Lines, Staging Bungalow, Church and Jail, also the tower of the old cantonment church, and the two cemeteries. In the suburbs there are a District School, and a Post Office, one Government and two other *saráis*, a dispensary and the Municipal Committee room. Close to the Municipal Committee room there is a masonry tank of large size called Karna, which gives the name to the city.

The Government maintains here a branch of the Hissár Cattle Farm. General Parrott, a retired officer of the Stud Department, took over the Government horse stud, which was formerly kept here, on its being broken up in the year 1875 (see pages 189-191).

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town	1868	29,007	15,951	13,056
	1881	23,133	12,626	10,507
Municipal limits	1868	29,007	..	..
	1875	24,015	..	..
	1881	22,528	..	..

The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown in the margin.

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. In 1881 the town included all that lay within municipal boundaries, together with the encamping ground, Civil lines, and Stud Depôt.

Town or suburb.	Population.	
	1868.	1881
Karnal town	29,007	21,400
Matak Majri		734
Chand Sarai		294
Civil Lines		605

The Deputy Commissioner wrote as follows in the district report on the Census of 1881 regarding the decrease of population:—"The "decrease is in some measure due to the diminished trade owing to "the opening of the railway, to the removal of the Stud Depart-"ment, and to the presence of troops on the encamping ground in "1868, but still more to the unhealthiness caused by the canal and "the swamps arround it, which has been intensified since 1868" (See birth and death-rates given below).

The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881. The annual birth and death-rates per mille of popu-

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lation since 1868 are given below, the basis of calculation being in every case the figures of the most recent Census:—

Year.	Birth Rates			Death Rates.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1868 ...	...	...	...	9	10	9
1869 ..	...	...	...	16	36	36
1870 ...	15	15	14	33	31	35
1871 ...	16	20	18	28	26	31
1872 ...	17	10	7	33	30	38
1873 ...	96	5	3	17	17	18
1874 ...	29	14	13	28	25	32
1875 ...	21	15	14	55	48	63
1876 ...	30	18	13	58	59	57
1877 ...	36	18	17	41	41	41
1878 ...	35	19	16	67	65	69
1879 ...	23	14	12	88	85	90
1880 ...	2	13	10	45	48	42
1881 ...	34	19	15	45	44	45
Average ...	26	15	12	43	43	46

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Kunjpura.

Kunjpura is a small municipal town in latitude 29° 43′ north, longitude 77° 7′ 15″ east. It has a population of 4,725, consisting of 2,174 Hindus, 1 Jain and 2,550 Musalmáns. It is situated in the Khádar of the Jamná, which now flows about 2 miles to the east, and is distant from Karnál 6 miles north-east. It is the residence of a distinguished Muhammadan family, whose head enjoys the revenue of the neighbourhood as *jágidár* and bears the title of Nawáb, with jurisdiction as honorary migistrate of the 2nd class on his own estates.

The town is enclosed by an old *pakka* wall, which is now in a delapidated state, and the municipality is too poor to keep it in good repair. The public buildings are—a school, a police *chauki*, and dispensary. The Municipal Committee consists of the Deputy Commissioner as president, the Nawáb as Vice-President, and 9 other non-official members appointed by nomination. Its income for the last few years is shown in Table No. XLV and is derived from octroi levied at a varying rate from 5 to 8 pies per rupee on the value of almost all goods brought within the municipal limits for the use or consumption of its inhabitants. The trade of the town is wholly local and unimportant. The history of Kunjpur a has already been given in Chapter II. It was from the cover of the fine orchards which still exist close to the town, that a division of the Persian army under Nádir Sháh made an important flank movement on the force of Muhammad Sháh at the battle of Karnál in 1739 A. D. The population as ascertained at the enumerations of 1868, 1875 and 1881, is shown in the margin.

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ..	1868	5,162	2,658	2,504
	1881	4,725	2,269	2,456
Municipal limits	1868	5,162	..	..
	1875	5,040	..	..
	1881	4,725	..	..

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Town of Kunjpura.

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875 were taken. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. The town is in an exceedingly unhealthy situation, the surrounding country being annually inundated by the floods of the Jamná; and this accounts for the steady decrease of population. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Town of Pánipat.

Pánipat is a municipal town and administrative head-quarters of a *tahsíl* of the same name. It lies in latitude 29°-23′ north, longitude 77° 1′ 10″ east, and has a population of 25,022 souls, consisting of 7,334, Hindús; 1 Sikh; 768 Jains; 16,917 Musalmáns, and 2 others. It is situated on the Grand Trunk Road, 53 miles north of Dehli, near the old bank of the Jamná, upon a high mound composed of the debris of centuries. From all sides the town slopes gently upwards towards an old fort, which is its highest point, and has low and squalid outskirts, receiving the drainage of the higher portion. The town is enclosed by an old wall which is formed by the back of many houses, and has 15 gates, of which the Salárganj to the north, Sháhviláit to the south, Mádhoganj to the east, are the principal ones; suburbs stretch in all directions except to the east. The town is traversed by two main *bàzàrs* running respectively from east to west and from north to south, the latter being the principal one. The streets are all well paved or metalled, but are narrow and crooked.

The principal building of antiquity within the city walls is the Dargáh Qalandar Sáhib. Buáli Qalandar was the son of Salár Fakír-ud-dín, and is supposed to have been born in the year 602 and to have died in the year 724 Hijri, aged 122 years; this tomb, with the exception of the pillars of the "*dálán*" or hall, which are of touchstone, was erected by Khizi Khán and Shádi Khán, sons of the Emperor Ala-ud-dín, Ghori. The touchstone pillars aforesaid were erected by one Razákulla Khán, son of Nawáb Mukarab Khán, a *Hakìm* in the service of the Emperor Akbar. The "*Khádims*" of the *Dargáh* still hold from Government a grant of land yielding Rs. 1,000 a year. They originally received Rs. 2,000 a year, but the income was reduced in 1858 in consequence of its having been discovered that a crusade had been preached against the British Government in 1857 at this place.

The town is of great antiquity, dating back to the period of the war between the Pándavás and the Kaurvás, when it formed one of the well known five "*pats*" or "*prasthas*" demanded by Yudishthira from Duryodhaná as the price of peace. In modern times the plains of Pánipat have thrice formed the scene of decisive battles, which sealed the fate of Upper India. In 1526 Bábar, with his small but veteran army, met Ibráhím Lodhi at the head of 100,000 troops near Pánipat, and, after a battle which lasted from sunrise to sunset, completely defeated the imperial forces. Ibráhím Lodhi fell with 15,000 of his followers; and in May 1526 Bábar entered Dehli, and established the so-called Mughal dynasty. Thirty years later, in

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Town of Pánipat.

1556, his grandson, Akbar, on the same battle-field, conquered Hemú, the Hindú General of the Afghán Sher Sháh, whose family had temporarily driven that of Bábar from the throne, thus a second time establishing the Mughal power. Again in 1761, the Durránis conquered the Mahrattás under the walls of Pánipat. A detailed account is given in Chapter II. In the first battle of Pánipat Ibráhím Lodhi fell; and an inscribed platform has been erected in his memory by the District Committee, just outside the octagonal tower of a garden wall which is still standing. When, however, the Grand Trunk Road was made, the Road Department destroyed the tomb (so says General Cunningham), and now an insignificant masonry platform, with a commonplace inscription, is all that stands in the name of the Emperor. The old tomb used to form a place of pilgrimage for the people of Gwáliar, since the last Rája of the old Gwáliar dynasty fell in the same battle.

The city is built upon a small promontory round which the old bed of the Jamná flows, and the city is well raised on the accumulation of centuries, the old fort in particular commanding the country for a considerable distance. The town is embowered in trees, and the white buildings shining through them present a very pleasing appearance as you approach it. The city must in old times have been of much greater size than it now is, and Jacquemont describes it as the largest city, except Dehli, which he saw in Northern India. Ruins of old shrines extend to a considerable distance round the town, and many mosques, shrines and gardens of very considerable pretensions still existing, but now in sad disrepair, tell of former importance. Many of the buildings possess considerable historical interest. An old Indian gun, some 8 feet long, made of bars of iron bound together by iron hoops, and with its name of *ganj shikan* or 'fort-breaker' cast on it, stood in the fort till after the mutiny, when it was destroyed and the gun thrown over the parapet. It has lately been moved to Dehli. The inhabitants are Arabs, Rájpúts, Patháns, Bairúpias, Káyaths, and the ordinary city classes.

The city of Pánipat used to be comparatively healthy, till, in 1852, a cut called the Rer escape was made to drain some swamps at the junction of the Dehli and Hissár canals. This cut, assisted by the Grand Trunk Road, holds up the Bángar drainage in a loop of the Khádar, just as the canal does at Karnál, till the banks break and pour the water down the Búrhi Nadi, which would ordinarily carry it off harmlessly, but which has silted up to a great degree since the cut stopped the regular flow of drainage on to the city of Pánipat. The sickness so caused was so great that in 1854 the head-quarters of the district were moved from Pánipat to Karnál on this ground. Rice cultivation was then prohibited in the neighbourhood of the town, but the prohibition is no longer in force. Mr. Ibbetson thus describes the people of Pánipat. The chief families have already been described in Chapter III, Section F.:—

"The people of Pánipat are proverbially classed with those of Kasúr and of Jagádhri as bearing not the highest of characters.—I think that, taken as a whole, they perhaps deserve their reputation. They are almost all more or less educated men; they have the misfortune to hold their land revenue free, so that they are never wholly without means; but they are too *sharíf* to cultivate themselves, while the body of landowners

has out-grown the capacity of the land to support idle hands in comfort. Of course there are numberless individuals who earn an honest livelihood by service or the like, and very many whose character for probity is unblemished, for many of whom I have the highest personal respect. But there is a very large residuum indeed who have attained the most consummate skill in chicanery; and their nearest female relations, all of whom are strictly secluded, and almost all of whom possess land under the Muhammadan law of inheritance, afford them a wide field for its practice without danger, which they take advantage of to the full. Their law of succession, and the tendency to intellectual subtlety which marks the race, have rendered their tenures and titles extraordinarily complicated; and an 8-anna power-of-attorney, attested by a couple of friends, and purporting to empower the holder to dispose fully of the lands and other property of his wife, sister, or mother, is often the basis of very curious preceedings indeed. I should add that the above description is far less true of the Rájpúts than of the other classes of inhabitants; and is especially inapplicable to the Kaliár Rájpúts, who, cultivating themselves, and being therefore looked down upon by their fellows, have generally escaped contamination. But the typical Pánipat suitor, with a petition of great length and intricacy, and displaying great research in fields of jurisprudence wholly irrelevant to the matter at issue, with a small law library of repealed Acts in his pocket, and who pours out in very high-flown language an interminable argument of which the locus is a circle carefully described round the point in dispute, is not a pleasant man."

The opening of the Railway on the opposite side of the Jamná has somewhat prejudiced the commercial position of Pánipat, having attracted from it much of the commerce formerly passing along the Grand Trunk Road. The municipality of Pánipat was first constituted of the 3rd class in 1867. The Committee consists of the Deputy Commissioner as President, *Tahsíldár* as Vice-President, the Hospital Assistant and 12 non-official members appointed by nomination. Table No. XLV shows the income of the municipality for the last few years. It is chiefly derived from octroi levied at a rate varying from 5 to 8 pies per rupee on the value of almost all goods brought within the municipal limits for the consumption of its inhabitants. The next important occupation after agriculture is that of trade and banking. There is little trade with towns at a distance. What there is, is chiefly local trade and banking. The manufacture of copper vessels for export is of some importance. There are several large establishments for the manufacture of glass for ornamenting women's dress. The only other manufactures, other than those carried on in almost every village, are cutlery and the making of silver beads in imitation of pearls. The glass manufacture is of some interest. The glass is blown into large globes, and into these, while still hot, some amalgam is poured and the globes turned about, then receiving an internal coating of quick-silver. They are then broken up into small pieces, which are used as spangle ornaments both by women for their dress, and for the decoration of the walls of rooms.

The public buildings in this town are; the police station, the school, and the Municipal Committee room. These three stand on the top of the old fort mound. Beside these in the suburbs there are a dispensary, a post office, and a large *sarái*. The *tahsíl* building and

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Town of Pánípat.

Limits of enumeration	Year of Census.	Persons.	Males.	Females.
Whole town ..	1868	25,276	13,145	12,131
	1881	25,022	12,431	12,591
Municipal limits ..	1868	25,276		
	1875	24,500		
	1881	25,651		

a small road bungalow are situated about a quarter of a mile north, and the civil rest-house about a mile to the west. There is also a large *pakká* tank to the north of the city. It was built by Mathra Dás Baniá in the time of Emperor Muhammad Sháh. The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown in the margin.

It is difficult ascertain the precise limits within which the enumerations of 1868 and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. It would appear from information supplied by the Deputy Commissioner that Núrwála and Amírnagar were included in the Census of 1868. The above figures show that they were excluded from that of 1881, as also was Bichpuri and though being within municipal limits. The Census of the town itself was confined to the area within the octroi barrier.

Town or suburb.	Population.	
	1868.	1881.
Panipat town ..	25,276	25,022
Nurwala ..		821
Bichpuri ..		629
Amírnagar ..		100

The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881. The annual birth and death-rates per mille of population since 1868 are given below, the basis of calculation being in every case the figures of the most recent Census :—

Year.	Birth Rates.			Death Rates.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1868 ...	...	...	...	6	6	6
1869 ...	...	...	...	14	15	13
1870 ...	46	44	48	36	36	37
1871 ...	39	42	36	50	48	53
1872 ...	43	24	19	45	48	46
1873 ...	36	18	18	43	39	48
1874 ...	40	22	18	34	33	35
1875 ...	46	24	22	46	45	46
1876 ...	46	23	23	29	29	29
1877 ...	45	23	22	32	32	32
1878 ...	38	20	18	37	39	36
1879 ...	29	16	13	46	47	46
1880 ...	34	17	17	30	32	29
1881 ...	45	24	21	39	40	37
Average ...	40	21	19	37	37	37

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

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Town of Kaithal.

Kaithal is a municipal town and administrative head-quarters of a *tahsíl* of the same name, and the station of an Extra Assistant Commissioner in independent charge of the sub-division. It lies in latitude 29° 48′ 7″ north, longitude 76° 26′ 26″ east, and has a population of 14,754 souls, consisting of 8,597 Hindús, 171 Sikhs, 134 Jains, and 5,852 Musalmáns. It is picturesquely situated on the bank of an extensive artificial lake or moat, which half surrounds it, with numerous bathing places and flights of steps. A high wall, partly *pakka* and partly of mud, encloses the opposite side of the town. It has eight gateways, of which the Karnál gate to the east, the Keorak and Súrajkúnd gates to the north, and Kasáí gate to the west, are the principal ones. Most of the streets are well paved or metalled but are nearly all narrow and crooked. The principal buildings of antiquarian interest are as under :—

1.—Tomb of Shekh Sháháb-ud-dín, Balkhí at the Síwan gate. This prince is said to have come from Balkh to Hindustán in 673 Hijri ; he was slain in battle at Kaithal ; his grandson built this tomb to his memory ; the pillars and cupola are entirely of stones ; the inscription is in Arabic on the cupola ; the *tàwìz* was removed from the tomb by one of the Rájás of Kaithal.

2. Masjid of Shekh Táyúb.—Built by himself in the time of the Emperor Akbar Jalál-ud-dín ; the cupola is coated with enamel.

3. Tomb of Sháh Wiláyat.—It was built in the reign of the Ghorís. Sháh Wiláyat's father built the tomb.—Some lands in the village of Síwan are released for the support of this shrine.

4. Tomb of Sháh Kamál.—Faqír Sháh Kamál is said to have come from Baghdád 250 years ago ; the tomb was erected by his descendants ; twice every year a fair is held at the spot ; lands and a well have been released for the support of the shrine.

5. Asthán Anjni, mother of Hanúmán.—This temple of Anjni, the mother of Hanúmán, was lately repaired by the Hindús of Kaithal.

The town is clean and picturesque.—The ruins of the old fort, or residence, of the Kaithal family stand out prominently on the high bank of an extensive artificial lake of irregular form, which sweeps half round the town, and seems to have been partly made by the excavation of bricks for building the town and fort, and partly formed to act as a moat for defence. Its margin is ornamented with extensive flights of steps leading down to the water, and with numerous bathing places for men and women, all built of solid masonry. The tank is one of the holy places of the Kurukshetra.

This town is said to have been founded by the mythical hero Yudisthira, and is connected by tradition with the monkey-god Hanúmán. It bears in Sanskrit the name of Kapisthala, or the abode of monkeys—a name which still applies. The town was renovated, and a fort built under Akbar. In 1767 it fell into the hands of the Sikh chieftain, Bháí Desu Singh, whose descendants, the Bháís of Kaithal, ranked amongst the most important and powerful Cis-Satlej chiefs. Their territories lapsed to the British Government in 1843. For a few years Kaithal formed the head-quarters of a separate district ; but in 1849 it was absorbed into the district of Thánesar, and again transferred in 1862 to that of Karnál (see Chapter II). The ruins of the fort or palace of the Bháís stand out prominently on the bank of the lake.

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Towns and Municipalities.

Town of Kaithal.

The municipality of Kaithal was first constituted of the 3rd class in 1867. The Committee consists of the Deputy Commissiener as President, the Extra Assistant Commissioner as Vice-President, Hospital assistant and Head-Master and 12 non-official members appointed by nomination. Table No. XLV shows the income of the municipality for the last few years. It is chiefly derived from octroi levied at a rate varying from 5 to 8 pies per rupee on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. A great blow was struck at the prosperity of the town by the fall of its Rájás, and the removal of their mimic court. To this cause is to be attributed the falling off in population. A sleepy trade is carried on in gram, sal ammoniac, saltpetre, horned cattle, sheep and country blankets. The refinement of saltpetre is brought to considerable perfection. Lacquer ornaments and toys are also made in some numbers both in Kaithal and in some of the surrounding villages. The public buildings are—a court-house, a *tahsíl*, a police station, a dispensary, and a school. There are many large tanks round the city, of which the Beddidár, the Shukarkúnd and the Súrajkúnd are the principal ones. The population as ascertained at the enumerations of 1868, 1875 and 1881 is shown in the margin.

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ..	1868	14,040	7,456	7,484
	1881	14,754	7,302	7,452
Municipal limits ..	1868	14,848	..	..
	1875	15,799	..	..
	1881	14,754	..	..

The small falling off in population is amply accounted for by the drought which preceded the Census, and by the fever epidemic of 1879.

The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881. The annual birth and death-rates per mille of population since 1868 are given below, the basis of calculation being in every case the figures of the most recent Census :—

Year.	Birth Rates.			Death Rates.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
1868 ...	...	...	...	8	8	7
1869 ...	...	...	...	13	14	12
1870 ...	32	35	29	22	23	21
1871 ...	28	31	25	26	31	21
1872 ...	20	11	9	29	29	29
1873 ...	14	8	6	16	17	16
1874 ...	30	16	13	22	25	19
1875 ...	25	15	10	15	18	13
1876 ...	29	15	14	24	22	26
1877 ...	34	18	16	18	18	18
1878 ...	22	13	9	51	50	52
1879 ...	11	6	5	35	33	37
1880 ...	16	8	7	22	23	21
1881 ...	21	12	9	22	23	21
Average ...	23	12	10	24	25	24

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The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Síwan town.

Síwan is a small town, or rather a large village of 5,717 inhabitants, situated in the Khádar of the Suruswatí, about 6 miles west of Kaithal. The town itself is an unpretentious collection of native houses without a well or any building of importance. It has a school recently opened. Its lands include an enormous hollow in which rice is extensively grown with the aid of the flood-waters, of the Suruswatí. On the stream is an old Mughal bridge and an abandoned village site of great size, where ancient bricks and Indo-Scythian coins are found in considerable numbers. This site is known to the people as Teh Polar. The population as ascertained at the enumerations of 1868 and 1881 is shown in the margin.

Year of Census.	Persons.	Males.	Females.
1868 ...	6,206	3,224	2,982
1881 ...	5,717	2,992	2,725

The decrease in population is attributed by the Deputy Commissioner to the years of drought which preceded the Census of 1881, and to the fever epidemic of 1879. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Púndri town.

Púndri is a small municipal town in latitude 29° 45′ 30″ north, longitude 76° 36′ 15″ east. It has a population of 4,977 souls, consisting of 3,343 Hindús, 3 Sikhs, 1 Jain, 1,630 Musalmáns. It is situated on the bank of an extensive tank known as the Púndrak tank, which gives its name to the town, and which nearly half surrounds it with bathing places and flights of steps. Púndri was in old days the head-quarters of the Púndri Rájpúts (see Chapter III, Section D). The town is enclosed by a mud wall, and has four gates, of which the Púndrak gate is to the north, the Kaithal gate to the west, the Pài gate to the south, and the Hábri gate to the east. Nearly all its streets are paved. There are many large *pakka* private buildings, and a good *pakka sarài* built by a banker. The public buildings are a school and a police station. The Municipal Committee consists of the Deputy Commissioner as President, the Extra Assistant Commissioner of Kaithal as Vice-President, and 7 non-official members appointed by nomination. Its income for the last few years is shown in Table No. XLV, and is derived from the octroi levied at a varying rate from 5 to 8 pies per rupee on almost all goods brought within the municipal limits for the use or consumption of its inhabitants. There is little trade. The bankers generally have their firms at Sehore cantonment. The population as ascertained at the enumerations of 1868, 1875 and 1881 is shown in the margin.

Limits of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ...	1868	4,773	2,360	2,413
	1881	4,977	2,379	2,598
Municipal limits ...	1868	4,749		
	1875	5,433		
	1881	4,977		

It is difficult to ascertain the precise limits within which the enumerations of 1868 and 1875

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were taken. The figures for the population within municipal limits according to the Census of 1868 are taken from the published tables of the Census of 1875; but it was noted at the time that their accuracy was in many cases doubtful. The constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII. Details of sex will be found in Table No. XX of the Census Report of 1881.

Pándri town.

Tiráori.

Tiráori, though not classed as a town, is a place of some historical interest. Here in 1191 the invading army of Muhammad bin Sám was defeated by the united Hindú armies under Pirthwi Raj, the Chauhán King of Dehli (see Chapter II). Here Prince Azìm, son of Aurangzeb (afterwards for a short time Azím Sháh), was born. In memory of him the place was named Azímábád, and is still so called by many Musalmáns. A wall round the town, a mosque and a tank, said to have been built by Aurangzeb, are still in existence. The old highway ran through Tiráori, and there is a well preserved specimen of the old royal *saràis* here. This building appears to have been used by the Sikhs as a fort. It is now the property of the Nawáb of Kunjpura and is unused and neglected.

APPENDIX.

Growth of irrigation from the Western Jamna Canal, and extension of saline efflorescence and swamp.

Appendix.

Growth of irrigation.

The figures below show the irrigation from the *whole* of the Western Jamna Canal, from 1819 to 1840, no separate figures being available for the district. The Dehli branch was opened in 1820, but the small supply of water carried by it may be estimated from the fact that till 1826, *at least*, no bridges were needed, as a loaded village cart could be driven through it without inconvenience. In 1826 the Rohtak branch was opened as far as Gohána; but the irrigation from both these canals, though steadily increasing up to 1833, was still very limited, and in 1831 the small use made of the water was attributed to "the uncertainty of the supply, the insufficiency of the outlets permitted for each village, and the high rates "charged" *viz.*, As. 11-2 per acre.

Early Irrigation from Western Jamna Canal.

Year.	Amount of water-rate in rupees.	Area calculated at average rate of As. 11-2 per acre.	REMARKS.
1819-20 ...	876	1,255	Main line & Dehli branch opened.
1820-21 ...	14,646	20,988	
1821-22 ...	24,619	35,279	
1822-23 ...	21,458	30,749	
1823-24 ...	36,015	51,609	Drought.
1824-25 ...	26,647	38,185	Famine.
1825-26 ...	48,374	69,320	Famine.
1826-27 ...	33,975	48,686	Rohtak branch opened.
1827-28 ...	34,161	48,953	
1828-29 ...	52,953	75,882	
1829-30 ...	53,375	76,486	
1830-31 ...	57,700	82,684	
1831-32 ...	51,016	73,106	
1832-33 ...	65,805	94,299	
1833-34 ...	1,48,783	2,13,206	Famine.
1834-35 ...	1,14,065	1,63,455	
1835-36 ...	1,10,603	1,58,494	
1836-37 ...	1,53,177	2,19,503	
1837 38 ...	2,72,378	3,90,318	Drought.
1838-39 ...	1,89,645	2,71,761	
1839-40 ..	2,24,383	3,21,541	Rain scanty.
1840-41 ...	2,55,818	3,66,587	Contract system introduced.
1841-42 ...	2,63,069	3,76,978	
1842-43 ...	2,79,300	4,00,237	

Appendix.

Growth of irrigation.

The terrible famine of 1833-34 gave a new turn to the irrigation question. This famine fell with perhaps even greater severity upon the Bángar than upon the Khádar; for the canal failed, while the people of the latter had at least their wells, so long as the cattle had strength to work them. The distress, feebly described at page 23, paralysed for a whole year the agriculture of the tract. But this very distress was the means of securing at one bound an advance in prosperity which might otherwise have taken many years to attain. The canal presented at least a possibility of salvation; and its officers had no longer reason to complain that the water they proffered was not accepted. Irrigating villages enlarged and multiplied their channels; numerous other villages which had never before irrigated dug cuts for themselves, often many miles in length; and the area irrigated was limited only by the means of supply, instead of, as heretofore, by the demand. Strenuous efforts were made to increase that supply; and the irrigation of 1833-34 was 2¼ times that of 1832-33, while the construction of the Butána branch extended the water to a part of the tract which it had previously been unable to reach. The means of irrigation, once called into existence by the pressure of a water-famine, were still available when the urgent necessity had passed away; and the irrigation never again fell to its former level. The failure of the rains in 1836-37 raised it above the figures of 1832-33, and the continuance of the drought caused the irrigation in 1837-38 to rise to what Captain Baker, the Superintendent of Canals, declared in 1841 to be the maximum capacity of the channels as they then stood. But the supply was still uncertain, and apt to fail when most needed. The whole system of canals and their subsidiary channels had been called on to perform a task far in excess of that for which they had been designed; the call had been urgent, and the necessary adaptations had been made as best they could, and on the spur of the moment. The arrangements at the heads for supplying the water from the river were also very imperfect; and too often the canal broke down just when there was the greatest need for its services.

Year.	Acres.
1876	69,744
1877	85,172
1878	123,567
1879	97,334
1880	77,027
1881	62,280
1882	69,483
1883	87,035

The table on the opposite page shows the irrigation between 1865 and 1875. The figures refer only to the portion of the district settled by Mr. Ibbetson; but the canal irrigation excluded is insignificant in amount. Since that date the area charged with water-rate in the Karnál District has been as shown in the margin.

Defects of the canal system.

When the canal was re-opened, every facility was offered to such villages as would make use of the water. In most cases an old imperial water-cut still existed, which they were allowed to clear out and use; and when there was none, they simply made themselves a channel straight from the nearest point on the canal from which water would flow to their fields. As the demand for water has extended, certain large distributaries have been constructed, which have absorbed many of the early channels, while others have been deepened, enlarged and extended. The main canals, too, have been deepened and their banks

Appendix.
Growth of irrigation.

		Year.	Cotton.	Sugar-cane.	Rice.	*Jawár.*	Wheat.	Gram.	Barley.	Barley and Gram.	Miscellaneous and fodder.	*Paloo* and *saitabi.*	Total area.
KARNAL BANGAR.	Canal areas.	1865 ...	1,393	533	7,455	651	6,257	674	993	46	756	4,045	22,839
		1866 ...	2,192	180	7,652	456	8,964	784	371	1,657	1,015	3,769	27.333
		1867 ...	1,812	98	6,003	16	6,489	448	302	1,436	509	1,042	18,211
		1868 ..	2,518	320	6,788	2,240	13,052	606	2,723	677	2,590	1,360	33,081
		1869 ...	3,016	665	9,165	1,334	9,063	570	2,232	825	1,539	2,236	30,904
		1870 ...	3,786	315	9,097	231	9,080	645	2,492	1,226	2,515	987	30,476
		1871 ...	1,633	179	6,621	82	9,841	1,001	1,623	276	1,872	792	24,004
		1872 ...	2.982	543	5,581	108	5,970	302	416	744	983	4,000	21,780
		1873 ...	1,123	492	7,145	74	5,453	159	619	274	963	4,068	20,985
		1874 ...	...	...	...	...	..	.	...	...	...	...	20,822
		1875 ...	...	..	..	...	...	...	...	...	...	...	19,368
		Average ...	2,273	370	7,278	577	8,241	610	1,308	795	1,416	2,541	24,555
PANIPAT BANGAR.	Canal areas.	1865 ...	7,899	4,296	10,449	4,658	22.217	1,201	494	4,714	2,099	5,446	63,473
		1866 ...	12,171	2,048	12,390	1,450	28,573	921	439	4,254	3,495	6,154	71,916
		1867 ...	11,467	2,853	8,325	448	20,339	1,531	436	3,118	2,893	1,757	53,174
		1868 ...	9,441	5,185	7,367	7,796	36,339	2 021	2,665	2,256	6,587	948	80,683
		1869 ...	11,121	7,129	8,048	7,773	27,834	2,563	1,726	3,166	6,148	1,842	77,431
		1870 ...	13,296	5,564	8,768	2,175	26,653	1,902	1,746	2,263	6,253	1,273	70,023
		1871 ...	12,474	4,322	7,225	666	26,413	1,636	1,682	3,768	6,096	868	65,450
		1872 ...	9,519	5,234	9,390	388	11,628	353	488	1,869	4,044	4,512	47,449
		1873 ...	4,790	5,355	8,651	466	9,024	224	407	811	4,407	5,177	39,378
		1874 ...	...	...	...	...	...	...	...	...	...	...	48,189
		1875 ...	...	—	...	...	...	...	...	...	...	...	41,669
		Average ...	10,242	4,665	8,957	2,869	23,224	1,373	1,121	2,913	4,669	3,108	59,894

Appendix.

Growth of irrigation.

Defects of the canal system.

raised, till the water touches the crown of the arches in the bridges. Most of these extensions were made under pressure of urgent need, and therefore without interrupting the supply, and too hurriedly to admit of due consideration being given to them, or of the best possible scheme being selected. Thus, while the faulty alignment of the old canal and channels is still followed, their carrying capacity has been so increased that in most part the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure.* A great deal of the canal is, of course, in embankment; and in many of the secondary channels silt clearances, often dating from the time of the Mughals, have raised the banks to a height of 12 and 15 feet; and this system of embankments has been constructed with so little reference to the natural drainage that it intersects all the drainage lines of the tract, and throws back the surface water over the surrounding country. This is especially the case in Karnál Bángar, where the canal runs in embankment below the Nardak step in the Bángar, and the Khádar bank in the Khádar, and holds up all the drainage which runs southwards from the highlands. The highland distributaries which cross the lowland to reach the villages on the crown of the slopes, act as so many dams above which huge swamps form, while the poops of the old channel in which the canal used to run, and which are cut off by it now that it has been straightened, act as breeding beds for crocodiles and malaria.

Excessive irrigation practised by the people.

But if the defects of the means of supply have given rise to evils, the pernicious system of irrigation pursued by the people, coupled with its rapid extension has increased those evils a hundred fold. While some 8 per cent. of the central canal tract is permanently under water, 40 per cent. of the whole area and 80 per cent. of the cultivated area is irrigated, much of it twice in the year, much of it for rice cultivation, and almost all of it every year without intermission. Now canal irrigation is not like well irrigation. When every drop of water used is represented by additional labour to man and beast, the greatest economy is exercised; not so when a stroke of the spade is sufficient to set flowing an unlimited supply. In the former case the cultivator divides his fields into small beds which are irrigated successively, and practically answer the purpose of terraces economising the water, not only by reducing he depth needed, but also by confining the area of already watered ground over which the water has to pass. On the canal, on the other hand, if a field is six inches lower at one end than at the other, a seven-inch bank is

* The total irrigation from Western Jamna Canal at various periods in shown below :—

Years.	Acres.
1820	155
1825	38,185
1830	76,486
1840	321,541
1870	496,542
1878	507,974

The average depths of water in feet at Karnál bridge at various periods is as follows :—

Years.	Feet.
1827	4·81
1830	5·20
1835	6·93
1870	9·81
1875	10·10

And the bottom from which these depths are measured has been raised considerably during the period over which these figures extend.

Appendix.

Growth of irrigation.

Excessive irrigation practised by the people.

made round it, and the whole field put under an average of four inches of water, in order to get one inch at the top; each spot in the field, after receiving its water, is still passed over by the water which goes to spots beyond it; and if a leak occurs in the channel, or if a bullock breaks down the side, the water is allowed to run to waste for hours before any trouble is taken to remedy the evil. The duty of the canal water for 1874-75 was 74 acres in the autumn, and 89 in the spring per cubic foot of supply. Supposing that the loss by evaporation and waste is counterbalanced by the fact that much of this land is watered in both seasons, this represents a supply of 62 inches in the year. A well working 13 hours a day for 150 days in the spring and 80 days in the autumn, and watering 15 acres, would have to supply at this rate 6,067 gallons per hour. Morever, the well water is itself drawn from the subsoil supply, and all that is lost by evaporation during the process of irrigation is so much lost to that supply; while in canal irrigation, all that is *not* so lost, is so much *added* to that supply.

Resulting swamps.

The result is that the whole country is water-logged by the canal water being forced into it from below, while the cultivator drenches it from above. And when the rain comes in tropical abundance, instead of finding a thirsty soil ready to drink up the greater part, it falls upon a country already saturated with water. and the whole volume is thrown into shallow drainage lines with an almost imperceptible slope. These again, being barred at intervals by high banks crossing them at right angles, silt up, and the water is thrown back and covers the country for miles. Thus, when the rainfall has been unusually heavy for several years in succession, there are hundreds of acres in which the autumn crop, if it can be sown at all, is almost or altogether drowned; while such little land as appears above the water soon enough to plough for the spring crop is so moist that the yield is barely worth the trouble of gathering. And there is a still larger area in which, after heavy rain, the water stands some inches deep for three or four days at a time, to the great injury of the crop. No means exist of carrying off the water, for, as the Chief Engineer reported in 1867, "the level of the water in the canal can very seldom "be reduced in the rainy season, just when the drainage of the swamps "is most needed; as even if the supply at the heads be shut off, the "quantity of water draining into the channel above Karnál is sufficient "and sometimes more than sufficient, to fill the channel at and below, "that point."

Resulting saline efflorescence.

Nor is it only swampage that results from the causes above mentioned; for if it were the higher land might be cultivated as the lower became uncultivable. For countless ages the rain falling upon the soil has washed down with it more or less of its saline constituents into the spring water below. That water now has been raised to within such a short distance of the surface that it can rise to it by capillary attraction, carrying with it salts which have been thus accumulated. As fast as it reaches the surface, wherever the cultivation or the shade of a thick tree does not interfere with radiation and evaporation, the fierce heat of an Indian sun concentrates the solution. Where the water is so near the surface, and the surface moisture so great that diffusion can take place, and the water thus made heavier can return

Appendix.

Growth of irrigation.

Resulting saline efflorescence.

by the way it came, no great harm is done. But over most of the area this is not the case, and the water evaporating leaves the salt deposited; and this process, repeated year after year, eventually covers the soil with a flocculent layer of alkaline salts, lying like fresh-fallen snow, often three or four inches thick. The first rain that falls is not heavy enough to reach the main drainages, and sinking in *in situ* carries with it the salts; thus preserving them by a sort of occlusion from the mechanical action of heavy rain, to reappear when the next sunny day restores the process of evaporation.*

The salts lie thick round the edges of the cultivation, and, notwithstanding the bank made to keep them out, are carried over the boundary by the wind and rain and deposited in the hollows of the out-lying fields. When once cultivation is thus destroyed, the capillary process immediately begins, and thus the evil is gradually eating its way from outside into the still fertile fields, every inch gained being made the stepping-stone for further inroads. The saline water and such grass as is able to spring up in the salt-impregnated land give the cattle diarrhoea and glandular affections, enfeeble, and eventually kill them; while the large area which is each year covered with water and aquatic plants in the rainy season, and dried up by the sun during the remainder of the year, exhales from its putrefying vegetation a malaria which poisons the blood of the villagers, renders them impotent, and kills them by fever and spleen disease.

Effects upon health and prosperity.

The epidemic of 1841-43, which assumed especial virulence in the canal tract, and caused the abandonment of Karnál as a cantonment, led to the appointment of a Committee by the Supreme Government to investigate the matter. Their report was published at Agrá in 1847. In 1867 Surgeon-Major Adam Taylor was appointed to make a further inquiry; and his report was published as Selection No. VI of 1870 from Records of Government Panjàb. Some of the figures of both reports are summarised on the opposite page.

Dr. Taylor shows that 60 to 80 per cent. of the inhabitants in *many* of the Bángar villages were suffering from enlarged spleen and yearly attacks of fever. He speaks of the "languor and depression "of manner, and stunted and shrivelled forms of the inhabitants of "the villages in close proximity" to the swamps; and of the absence of "the strength to repair damages or to preserve comfort." The heavy rains of 1871-76 rendered the sanitary condition of the canal villages worse than ever.

In 1856 the people of many of the worst villages abandoned their homes and fled to Jínd; and Mr. Sherer was deputed to inspect the tract. His admirable report was submitted in 1857, and is printed as part of Selections No. XLII (1864) from Government of India correspondence, P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had

* An immense amount of information and discussion on the subject of *reh*, its origin, formation, effects and cure, will be found in the report of the Aligarh Reh Committee of 1878, in Selections No. XLII (1864) from Government of India correspondence, P. W. D., and in the printed correspondence with Board of Revenue, N. W. P., No. 231 of 21st October 1874, and Government, N. W. P., Revenue Department, Index Nos. 61-83 of May 1877.

Appendix.

Growth of irrigation.

Effects upon health and prosperity.

Statistics of Disease on Western Jamna Canal.

Locality.	Distance from Canal.	Depth of water below surface.	Percentage of large spleens.	Percentage suffering from fever in 1844.	1845.	1864.
REPORT OF 1847.						
WESTERN JAMNA CANAL.						
Dehli Branch ...	Within half a mile ...	11	58	51	45	41
	More than a mile ...	18	49	51	49	40
Rohtak Branch ...	Within half a mile ...	28	44	47	38	27
	More than a mile ...	48	29	34	34	27
Butána Branch ...	More than half a mile	102	16	41	36	22
NON CANAL VILLAGES.						
Dehli territory ...	..	88	11	32	28	11
High Doáb ...	...	24	8	37	31	20
REPORT OF 1867.						
Dehli Branch ...	Within half a mile ..	6	61	33	20	63
	More than a mile ...	11	44	40	38	66
Rohtak Branch ...	within half a mile ...	5	41	36	36	51
	More than a mile ...	7	47	44	54	68
Butána Branch ..	More than half a mile,	45	7	33	28	32
Between the canals...	...	8	47	34	41	65

not nearly reached its limits, but must necessarily continue to spread almost indefinitely.

From a sanitary point of view he found a state of things existing "very much worse than that described by the Committee of 1847." He speaks of the miserable disease engendered by the tainted water and malarious exhalations of the soil; of the spectacle of sick women and diseased children crouching among the ruins of their houses (for in many cases the rafters had been sold), of haggard cultivators wading in the swamps, and watching their sickly crops, or attempting to pasture their bony cattle on the unwholesome grass.

Present condition.

In the beginning of 1877 Mr. Ibbetson, reporting on the assessment of the canal tract, wrote as follows:—

"The villages of the tract may be described under three heads. Those which, well removed above the influence of the *reh*, reap the benefits of the canal without being subject to its injuries, are eminently prosperous.

"Those villages, which, though out of the lines of drainage and swamp, are so low that their pastures are covered by *reh*, are far less prosperous. Their cultivation has decreased, and must decrease still further; the fertility of what remains has diminished; expansion is impossible; what little grass there is for the cattle weakens and kills them, and the water is bad for both man and beast. Where the village is large and well off, they have saved the mass of their cultivation from any very great deterioration, and the inroads of *reh* are chiefly confined to the edges. But where the community is poor, the whole cultivation has suffered, and the *reh* advances with

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Growth of irrigation.

Present condition.

accelerating impetus. It is, then, most important to assess lightly this class of villages, so that they may not be hampered in their struggle with the evil.

"As for the villages which lie in the drainage lines, or have low land near the canal, their state is pitiful indeed. Their early cultivation was, as is the case throughout the district, in the lowest parts of their area; and while the higher lands were becoming covered with *reh*, the stiff soil of the fields helped to preserve the lower from injury. But as the water-level rose, and swamps and soakage began to extend, they found their cultivation under water, while, turning too late to their high lands, they perceived that they had become barren; and now they live a semi-amphibious life, their houses crumbling with the damp, crocodiles in their village ponds, the water in the wells so near that, as they say, they can 'draw water without a string,' their sickly feeble cattle obliged to leave the village during the rains, and they themselves suffering from all complications of malarious disease with an unbroken regularity. Year by year they sow rice with the certainty that only an exceptionally dry season can save it from being drowned, and that much of it must even then be injured by too much water; year by year they watch the fields as they dry up, and rapidly passing a plough through the tenacious mud, sow their wheat and barley in the open furrows till the very last moment when there is hope of their germinating, or even sow the seed on the unbroken mud, and plough over it when the ground is a little drier; and this in the knowledge that some of it will fail, that heavy rain will drown more of it, and that most of what does come up will barely repay the labour spent on it. Much of their land is sour and cold from being so permanently saturated with water that, though not under water, it cannot be cultivated; some of it perhaps is separated from their village by the canal, the nearest bridge being some miles off, and it being forbidden to take cattle to it along the bank. In a year of drought these villages no doubt reap splendid crops, but years of drought are fortunately the exception, and I think that the very largest allowance should be made for the circumstances of estates so situated.

"My experience of the tract was then limited to a probably exceptional series of seasons of full or excessive rainfall. Since then I have seen them during a series of, I hope, exceptionally scanty rain, and I think I exaggerated the *average* condition of the swampy villages. It would be difficult to exaggerate it as it is in really wet years."

General Strachey did not speak one whit too strongly, when he said in 1867:—

"The portion of the canal near Karnál is a disgrace to our administration, and has been for years past. It creates most pestilential swamps which must be got rid of, unless we are content to perpetuate this abominable nuisance, which has been talked about for the last 25 years, during which period no serious attempt has been made to abate it. For my own part, I distinctly reject all share in any counsel which tends to delay in meeting this most crying evil. I most fully admit the great importance of doing what has to be done with the most scrupulous regard to economy, and I am ready to sacrifice all thought of elegance or congruity for the purpose of avoiding any considerable outlay, which is really not needed to secure efficiency. But it is impossible for me to affirm, with too great positiveness, the moral obligation which rests on our Government to put an end, with all possible speed, to the discreditable condition of the large tracts of land along the Western Jamna Canal, which are converted into swamps of the most pestilential nature, not

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Growth of irrigation

Present condition.

only destructive to the health and life of the population, but occupying in a manner far worse than useless some of what might be the very best lands. It will be necessary to do something, and what is necessary should not be delayed till other works, which have no relation to this part of the scheme, are completed."

The new canal is now nearly complete; the re-alignment of the distributaries has already done much good, and the completion of the drainage scheme will doubtless go far to cure the evil of swamps. But the efflorescence will not be so easily got rid of; and it will, probably be many years before this scorge is very materially decreased.

STATISTICAL TABLES

APPENDED TO THE

GAZETTEER

OF THE

KARNÁL DISTRICT.

(INDEX ON REVERSE).

"ARYA PRESS," LAHORE.

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Table No. II, showing DEVELOPMENT.

1	2	3	4	5	6	7
DETAILS.	1853-54.	1858-59.	1863-64.	1868-69.	1873-74.	1878-79.
Population ..	..	..	..	617,997	..	622,621
Cultivated acres ..	..	..	..	645,120	671,896	630,319
Irrigated acres ..	..	..	..	242,845	243,951	249,160
Ditto (from Government works) .	.	..	..	108,460	103,227	103,227
Assessed Land Revenue, rupees	..	..	..	8,68,580	8,73,916	8,88,065
Revenue from land, rupees ..	..	..	..	6,53,799	6,70,034	5,97,247
Gross revenue, rupees .	.	..	..	7,14,779	7,81,651	7,92,269
Number of kine ..	..	..	..	194,458	193,240	193,653
,, sheep and goats ..	..	..	..	70,072	65,242	61,862
,, camels ..	..	..	..	901	756	702
Miles of metalled roads ..	..	..	..	467	58	60
,, unmetalled roads ..	..	..	..		154	52
,, Railways ..	..	..	..	..	..	.
Police staff ..	..	..	492	655	544	621
Prisoners convicted ..	..	..	1,565	1,612	1,573	1,717
Civil suits,—number .	..	1,859	1,854	2,050	3,095	3,592
,, —value in rupees ..	..	2,07,172	2,61,705	1,60,181	2,91,649	2,66,775
Municipalities,—number ..	..	..	..	..	5	5
,, —income in rupees ..	..	..	..	29,886	32,742	41,648
Dispensaries,—number of ..	..	..	..	4	4	6
,, —patients ..	.	.	..	18,113	27,774	36,646
Schools,—number of	..	..	87	74	54	47
,, —scholars ..	..	..	1,817	2,146	1,906	2,651

NOTE.—These figures are taken from Tables Nos. I, III, VIII, XI, XV, XXI, XLI, XLV, L, LIX, and LXI of the Administration Report.

Table No. III, showing RAINFALL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	ANNUAL RAINFALL IN TENTHS OF AN INCH.																	
Rain-gauge station.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	AVERAGE.
Karnal ..	168	390	163	190	321	331	330	424	431	354	249	240	243	236	319	250	250	[illegible]
Panipat ..	187	297	145	161	268	336	292	305	314	243	281	169	242	242	280	222	216	[illegible]
Kaithal ..	170	228	77	145	147	205	347	235	173	272	128	103	224	110	293	176	282	[illegible]

NOTE.—These figures are taken from the weekly rainfall statements published in the *Punjab Gazette*.

Table No. IIIA, showing RAINFALL at head-quarters.

1	2	3	1	2	3
	Annual Averages.			Annual Averages.	
MONTHS.	No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.	MONTHS.	No. of rainy days in each month—1867 to 1876.	Rainfall in tenths of an inch in each month—1867 to 1881.
January	2	11	September	6	37
February	2	13	October	1	3
March	3	12	November	..	..
April	1	6	December	1	5
May	3	13	1st October to 1st January	2	9
June	5	42	1st January to 1st April	7	36
July	11	92	1st April to 1st October	33	245
August	8	55	Whole year	42	289

Note.—These figures are taken from Table No. XXIV of the Revenue Report, and from page 34 of the Famine Report.

Table No. IIIB, showing RAINFALL at Tahsil Stations.

1	2	3	4	5
	Average fall in tenths of an inch, from 1873-74 to 1877-78.			
Tahsil Stations.	1st October to 1st January.	1st January to 1st April.	1st April to 1st October.	Whole year.
Panipat	5	23	232	310
Kaithal	2	21	212	235

Note.—These figures are taken from pages 36, 37 of the Famine Report.

Table No. V, showing the DISTRIBUTION of POPULATION.

1	2	3	3	5
	District.	Tahsil Karnal.	Tahsil Panipat.	Tahsil Kaithal.
Total square miles	2,396	832	458	1,106
Cultivated square miles	1,002	378	284	400
Culturable square miles	892	273	81	538
Square miles under crops (average 1877 to 1881)	914	318	229	367
Total population	622,621	231,094	186,793	204,734
Urban population	78,328	27,858	25,022	25,448
Rural population	544,293	203,236	161,771	179,286
Total population per square mile	260	278	408	185
Rural population per square mile	227	245	353	162
Towns & villages. Over 10,000 souls	3	1	1	1
5,000 to 10,000	1	..	.	1
3,000 to 5,000	16	3	5	8
2,000 to 3,000	35	10	15	10
1,000 to 2,000	117	45	45	27
500 to 1,000	182	79	40	63
Under 500	509	221	60	228
Total	863	359	166	338
Occupied houses. Towns	10,441	4,558	2,952	2,931
Villages	57,830	18,927	23,763	15,140
Unoccupied houses. Towns	5,22[illegible]	1,671	1,687	1,868
Villages	17,945	5,281	8,014	4,650
Resident families. Towns	21,250	7,731	6,216	7,303
Villages	97,358	45,267	36,190	15,901

Note.—These figures are taken from Tables Nos. I and XVIII of the Census of 1881, except the cultivated, culturable and crop areas, which are taken from Tables Nos. I and XLIV of the Administration Report.

Table No. VI, showing MIGRATION.

1	2	3	4	5	6	7	8
Districts.	Immigrants.	Emigrants.	Males per 1 000 of both sexes.		Distribution of Immigrants by Tahsils		
			Immigrants.	Emigrants	Karnal.	Panipat	Kaithal
Delhi	8,672	7,406	258	313	981	7,284	107
Hissar	4,805	2,547	316	388	631	1,062	3,122
Rohtak	10,611	7,845	275	314	1,352	7,299	1,960
Umballa	16,3[illegible]	15,532	349	307	10,649	387	5,817
Native States	26,394	26,048	308	319	1,611	2,888	21,895
N W P and Oudh	25,658	24,000	405	458	13,956	10,029	1,673
Rajputana	2,118		584		680	940	498

Note —These figures are taken from Table No XI of the Census Report of 1881

Table No. VII, showing RELIGION and SEX.

1	2	3	4	5	6	7	8
	District.			Tahsils			
	Persons	Males	Females	Karnal	Panipat	Kaithal	Villages
Persons	622,621			231,094	180,793	204,734	544,298
Males		336,171		124,880	100,901	110,990	296,172
Females			286,450	106,214	86,492	93,744	248,131
Hindus	458,662	246,649	207,013	161,577	137,809	154,282	413,747
Sikhs	8,036	4,504	3,532	2,594	218	5,229	7,740
Jains	4,655	2,489	2,166	1,129	2,858	668	3,578
Buddhists							
Zoroastrians							
Musalmans	156,183	82,485	73,698	65,747	45,908	44,528	119,270
Christians	85	44	41	47	14	25	32
Others and unspecified							
European & Eurasian Christians	37	20	17	24	11	2	
Sunnis	153,530	81,176	72,354	64,288	45,360	43,882	117,325
Shiahs	2,129	996	1,133	1,242	526	361	1,439
Wahabis							

Note —These figures are taken from Tables Nos III, IIIA, IIIB of the Census of 1881

Table No. VIII, showing LANGUAGES.

1	2	3	4	5
Language	District	Distribution by Tahsils		
		Karnal	Panipat.	Kaithal
Hindustani	595,714	230,502	186,257	178,905
Bagri	161	62	88	61
Panjabi	26,580	428	412	25,740
Pashtu	27	5	9	13
Pahari	3	3		
Kashmiri	15	6	9	
Persian	4	4	1	1
English	38	25	11	2

Note — These figures are taken from Table No IX of the Census Report for 1881.

Table No. IX, showing MAJOR CASTES and TRIBES.

1	2	3	4	5	6	7	8	9	10
Serial No in Census Table No VIIIA	Caste or tribe	Total Numbers			Males, by religion.				Proportion per mille of population
		Persons	Males	Females	Hindu	Sikh	Jain	Musalman	
	Total population	622,621	336,171	286,450	246,649	4,504	2,489	82,485	1,000
6	Pathan	5,898	3,108	2,790				3,108	9
1	Jat	95,108	52,384	42,724	47,389	3,507		1,488	153
2	Rajput ..	53,260	29,062	24,198	7,129	32		21,895	85
55	Ror	34,094	18,485	15,609	18,441	44			55
86	Taga	4,162	2,214	1,948	1,144		..	1,070	7
8	Gujar	21,898	12,871	9,527	9,206			3,165	35
45	Mali	10,124	5,461	4,663	5,362	97		2	16
7	Arain .	7,118	3,836	3,282	28	2		3,806	11
83	Kamboh	9,082	5,011	4,071	4,164	48		799	15
17	Shekh ..	13,789	7,180	6,609				7,179	22
3	Brahman .	55,168	29,610	25,558	29,534	76			89
24	Saiyad .	4,309	2,170	2,139				2,169	7
53	Bairagi	4,629	2 642	1,987	2,642				7
21	Nai	10,307	5,547	4,760	4,501	35	.	1,011	17
25	Mirasi .	2,974	1,469	1,505	2	.	.	1,467	5
40	Jogi .	9,267	4,813	4,454	3,467	2	.	1,344	15
14	Banya .	40,599	21,512	19,087	19,022	1	2,489		65
4	Chuhra ..	31,288	16,539	14,749	16,415	67		57	50
49	Dhanak	3,369	1,770	1,599	1,770				5
5	Chamar	54,067	28,916	25,151	28,746	119		46	87
9	Julaha	9,090	4,867	4,223	1,305	53		3,509	15
73	Gadaria	3,725	1,938	1,787	1,938		.		6
15	Jhinwar	31,200	16,984	14,216	15,836	69		1,079	50
22	Lohar	9,190	4,963	4,227	2,195	42		2,726	15
11	Tarkhan	13,787	7,288	6,549	5,323	145	.	1,770	22
13	Kumhar .	14,712	8,005	6,707	6,937	74		994	24
86	Chhimba	4,856	2,630	2,226	505	3		2,122	8
23	Teli	9,777	5,239	4,538	19			5,220	16
39	Qassab	4,587	2,367	2,220				2,367	7
30	Sunar .	4,021	2,157	1,864	1,930	19		208	7

NOTE —These figures are taken from Table No VIIIA of the Census of 1881

Table No. IXA, showing MINOR CASTES and TRIBES.

1	2	3	4	5
Serial No in Census Table No VIIIA	Caste or tribe	Persons	Males	Females
16	Khatri	1,170	695	475
27	Ahir .	1,007	597	410
32	Dhobi	2,748	1,447	1,301
35	Faqir, miscellaneous and unspecified	2,033	1,183	850
37	Mughal ..	597	313	284
42	Mallah .	1,277	631	646
46	Dogar	1,960	1,059	901
47	Maniar	789	427	362
48	Bharai	1,202	642	560
56	Kalal	878	441	437
61	Darzi	1,238	674	564
62	Bhat	1,399	708	691
63	Madari	2,640	1,384	1,256
72	Sansi	1,309	693	616
76	Nungar	887	496	391
81	Gaddi	2,729	1,494	1,235
82	Rawat	1,025	525	500
83	Ponja	756	395	361
85	Od	629	355	274
87	Khatik	1,093	570	523
90	Kayath	737	401	336
93	Raj	583	279	304
94	Banjara	617	356	261
98	Nat	815	394	421
99	Kori	817	456	361
102	Gusain	1,723	1,153	570
105	Lodha	1,659	915	744
108	Bhurbhunja .	1,257	693	564
110	Rangrez	1,662	863	799
111	Benawa	1,515	789	726
122	Rahbari	1,125	615	510
143	Jalali	609	333	276

NOTE.—These figures are taken from Table No VIIIA of the Census of 1881

Table No. X, showing CIVIL CONDITION.

1	2	3	4	5	6	7	8
	DETAILS.	SINGLE.		MARRIED.		WIDOWED.	
		Males.	Females.	Males.	Females.	Males.	Females.
Actual figures for religions.	All religions	156,912	87,375	153,146	150,572	26,113	48,503
	Hindus	114,144	61,931	112,473	110,469	20,082	34,613
	Sikhs	2,292	1,145	1,912	1,838	300	554
	Jains	1,059	635	1,157	1,126	273	405
	Buddhists	..	..	..	..	..	..
	Musalmans	39,394	23,641	37,585	37,128	5,506	12,929
	Christians	23	23	19	16	2	2
Distribution of every 10,000 souls of each age.	All ages	4,668	3,050	4,555	5,256	777	1,693
	0—10	9,858	9,644	139	851	3	5
	10—15	8,018	5,289	1,934	4,626	47	85
	15—20	5,373	938	4,440	8,785	186	282
	20—25	3,135	106	6,457	9,814	408	580
	25—30	1,843	47	7,564	9,046	593	907
	30—40	1,115	32	7,956	8,041	929	1,927
	40—50	754	26	7,586	5,992	1,709	3,982
	50—60	647	32	6,722	3,954	2,631	6,014
	Over 60	540	33	5,379	1,769	4,081	8,197

NOTE.—These figures are taken from Table No. VI of the Census Report.

Table No. XI, showing BIRTHS and DEATHS.

1	2	3	4	5	6	7	8	9	10
YEARS.	TOTAL BIRTHS REGISTERED.			TOTAL DEATHS REGISTERED.			TOTAL DEATHS FROM		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Cholera.	Small-pox.	Fever.
1877	..	..	..	7,275	5,566	12,841	..	984	6,516
1878	..	..	..	15,111	11,818	26,929	.	4,006	16,492
1879	..	..	..	19,908	16,314	36,222	1,606	2,369	26,047
1880	10,484	8,583	1,9067	13,172	10,047	23,210	1	459	17,017
1881	14,251	11,985	26,236	12,203	9,788	21,991	125	398	14,699

NOTE.—These figures are taken from Tables Nos. I, II, VII, VIII, and IX of the Sanitary Report.

Table No. XIA, showing MONTHLY DEATHS from ALL CAUSES.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January	962	1,157	2,098	2,983	1,718	9,518
February	843	1,136	2,619	1,888	1,900	7,786
March	1,056	1,402	1,027	1,614	1,665	7,364
April	919	1,781	1,729	1,630	1,958	8,017
May	1,115	2,842	3,897	1,655	1,467	10,976
June	1,456	2,133	2,259	1,945	1,525	9,818
July	1,250	1,430	1,180	1,364	1,481	6,655
August	1,199	1,543	3,055	1,632	1,280	8,709
September	889	1,621	4,451	2,095	2,370	11,376
October	880	3,457	6,062	2,195	1,992	14,586
November	1,249	5,559	3,648	1,984	2,140	14,580
December	1,073	2,868	3,597	2,234	2,545	12,317
Total	12,841	26,929	36,222	23,219	21,991	121,202

NOTE.—These figures are taken from Table No. III of the Sanitary Report.

Table No. XI B, showing MONTHLY DEATHS from FEVER.

1	2	3	4	5	6	7
MONTH.	1877.	1878.	1879.	1880.	1881.	Total.
January	548	525	2,019	2,431	1,138	6,661
February	510	472	1,294	1,416	1,291	4,983
March	574	558	970	1,205	1,126	4,433
April ..	495	713	996	1,264	1,378	4,846
May ..	572	952	1,901	1,812	1,008	5,745
June .	697	850	1,274	1,427	1,043	5,291
July ..	583	652	701	937	856	3,729
August .	592	878	2,190	1,061	642	5,372
September .	365	1,033	3,506	1,417	1,446	7,767
October	423	2,782	5,169	1,576	1,332	11,282
November	641	4,792	3,070	1,395	1,550	11,448
December ..	516	2,285	2,918	1,576	1,889	9,214
TOTAL .	6,516	16,492	26,047	17,017	14,699	80,771

NOTE.—These figures are taken from Table No. IX of the Sanitary Report.

Table No. XII, showing INFIRMITIES.

1	2	3	4	5	6	7	8	9
	INSANE.		BLIND.		DEAF AND DUMB.		LEPERS.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
All religions { Total .	159	93	2,238	2,323	181	79	167	24
All religions { Villages ..	120	79	1,041	1,054	157	68	155	18
Hindus ..	103	70	1,669	1,711	183	61	116	16
Sikhs	2	1	30	25	..	..	2	..
Musalmans .	54	22	535	584	47	18	48	8

NOTE.—These figures are taken from Tables Nos. XIV to XVII of the Census of 1881.

Table No. XIII, showing EDUCATION.

1	2	3	4	5	1	2	3	4	5
	MALES.		FEMALES.			MALES		FEMALES.	
	Under instruction.	Can read and write.	Under instruction.	Can read and write.		Under instruction.	Can read and write.	Under instruction.	Can read and write.
All religions { Total	2,715	13,226	63	90	Musalmans	811	1,515	49	32
All religions { Villages	1,484	9,535	7	37	Christians	4	29	7	19
Hindus .	4,777	10,527	6	84	Tahsil Karnal	1,141	4,515	43	47
Sikhs ..	22	135	..	3	,, Panipat	704	4,426	14	18
Jains ..	101	1,020	1	2	,, Kaithal	870	4,285	6	25
Buddhists ..	..		..						

NOTE.—These figures are taken from Table No. XIII of the Census of 1881.

Table No. XIV, showing detail of SURVEYED and ASSESSED AREA.

1	2	3	4	5	6	7	8	9	10	11	12
	CULTIVATED.				UNCULTIVATED.						
	Irrigated.										
	By Government works.	By private individuals.	Unirrigated.	Total cultivated.	Grazing lands.	Culturable.	Unculturable.	Total uncultivated.	Total area assessed.	Gross assessment.	Unappropriated culturable waste, the property of Govt.
1873-69 ..	108,460	134,385	402,275	645,120	3,093	578,027	279,680	860,800	1,505,920	808,580	3,093
1875-74 ..	103,827	140,724	427,945	671,396	6,375	561,418	275,482	833,275	1,505,171	878,916	527
1878-79 ..	103,227	145,933	431,159	680,319	8,163	562,558	282,950	853,671	1,533,990	883,[illegible]	527
Tahsil details for 1878-79—											
Tahsil Karnal ..	23,850	4[illegible]605	172,415	241,870	.	174,688	112,629	287,312	529,182	324,022	
,, Panipat	71,712	54,287	56,210	182,209		51,810	59,225	111,035	293,244	380,978	
,, Kaithal	7,665	46,041	202,334	256,240	8,163	336,065	111,096	455,324	711,564	178,370	527

NOTE.—These figures are taken from Table No. VIII of the Administration Report, except the last column, which is taken from Table No. I of the same Report.

Table No. XV, showing TENURES held direct from Government as they stood in 1878-79.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Whole District.				*Tahsil Panipat and Parganah Karnal lately under Settlement.*				*Parganah Indri, Tahsil Karnal.*				*Tahsil Kaithal.*			
NATURE OF TENURE.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.	No. of estates.	No. of villages.	No. of holders or shareholders.	Gross area in acres.
A.—ESTATES NOT BEING VILLAGE COMMUNITIES, AND PAYING IN COMMON (ZAMINDARI).																
II.—Paying above 5,000 rupees revenue. (a) Held by individuals under the law of primogeniture	4	4	1	7,665	..	..	..	..	4	4	1	7,665	..	..	..	..
III.—Paying 1,000 to 5,000 revenue. (b). Held by individuals or families under the ordinary law	11	11	11	12,896	11	11	11	12,896	..	..	..	..	..	..	..	..
IV.—Paying 1,000 rupees revenue and under. (b). As above	12	12	12	6,179	1	1	1	2,236	6	6	6	1,690	5	5	5	2,253
PROPRIETARY CULTIVATING VILLAGE COMMUNITIES.																
B.—*Zamindari* .. Paying the revenue and holding the land in common ..	58	58	1,674	50,874	45	45	1,538	40,383	3	3	81	3,148	10	10	55	7,343
E.—*Mixed or imperfect pattidari or bhayachara.* In which the lands are held partly in severalty and partly in common, the measure of right in common land being the amount of the share or the extent of land held in severalty.	784	775	78,979	1,274,975	274	270	31,996	409,209	225	225	13,927	242,351	285	280	33,056	623,415
F.—*Grantees of Government not falling under any previous class, and paying revenue direct to Government in the position of :—*																
I.—*Proprietors*, including individuals rewarded for service or otherwise, but not purchasers of Government waste ..	4	4	19	3,481	..	..	..	..	..	..	..	..	4	4	19	3,481
II.—*Lessees*	54	54	1,763	72,960	..	..	..	..	5	5	7	3,591	49	49	1,756	69,369
H.—*Purchasers of Government waste paying revenue direct to Government and not included in any previous class*	1	1	45	1,912	..	..	..	..	..	..	..	..	1	1	45	1,912
I.—*Government waste, reserved or unassigned* ..	157	..	..	465	..	..	..	..	..	..	..	..	157	..	..	465
TOTAL	1,085	919	82,504	1,431,407	331	327	33,546	464,724	243	243	14,022	258,445	511	349	34,936	708,238

NOTE.—These figures are taken from Table No. XXXIII of the Revenue Report for 1878-79.

Table No. XVI, showing TENURES not held direct from Government as they stood in 1878-79.

1	2	3	4	5	6	7	8	9
	District Karnal.		*Tahsil Karnal and Panipat lately under Settlement.*		*Pargannah Indri, Tahsil Karnal.*		*Tahsil Kaithal.*	
NATURE OF TENURE.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.	No. of holdings.	Acres of land held.
A.—TENANTS WITH RIGHT OF OCCUPANCY.								
I. Paying rent in cash. (a) Paying the amount of Government revenue only to the proprietors.	4,630	20,050	3,971	16,728	659	3,322	..	..
(b) Paying such amount, plus a cash Malikanah ..	441	3,977	..	..	441	3,977	..	..
(c) Paying at stated cash rates per acre ..	287	698	258	519	29	179	..	..
(d) Paying lump sums (cash) for their holdings ..	1,633	10,785	162	768	470	1,830	1,001	8,187
Total paying rent in cash ..	6,991	35,510	4,891	18,015	1,599	9,308	1,001	8,187
II. Paying rent in kind. (a) Paying a stated share of the produce in kind. (2) ½ produce and less than ½ produce ..	472	1,870	31	84	441	1,786	..	..
(3) ¼ ,, ,, ⅓ ,, ..	51	503	..	..	51	503	..	..
(4) ⅕ ,, ,, ¼ ,, ..	37	122	37	122	..	..	..	..
(b) Paying a stated share of the produce plus a cash contribution. (1) Share of produce ¼ and more ..	354	2,522	..	..	..	..	354	2,522
Total paying rent in kind ..	914	5,017	68	206	492	2,289	354	2,522
GRAND TOTAL of Tenants with rights of occupancy ..	7,905	40,527	4,459	18,221	2,091	11,597	1,355	10,709
B.—TENANTS HOLDING CONDITIONALLY.								
II. For period on lease. (a) Written ..	920	5,821	920	5,821	..	..	..	..
(b) Not written ..	422	5,886	150	1,942	..	..	272	3,944
C.—TENANTS-AT-WILL.								
I. Paying in cash ..	31,404	103,266	25,111	69,943	1,890	8,183	4,403	25,140
II. Paying in kind. (a) ½ produce and more ..	29	340	29	340	..	..	..	..
(b) less than ½ produce ..	4,860	27,378	1,804	9,535	3,056	17,843	..	..
C.—PARTIES HOLDING AND CULTIVATING SERVICE-GRANTS FROM PROPRIETORS FREE OF ALL REVENUE.								
I. Sankalap or Dharmarth ..	560	1,094	41	28	431	853	88	213
II. Conditional on service ..	240	664	203	613	37	51	..	..
GRAND TOTAL OF TENURES ..	46,340	184,976	32,717	106,443	7,505	38,527	6,118	40,000

NOTE—These figures are taken from Table No. XXXIV of the Revenue Report.

Table No. XVII, showing GOVERNMENT LANDS.

1	2	3	4	5	6	7	8	9
			Acres held under cultivating leases.		*Remaining acres.*			
	No. of estates.	Total acres.	Cultivated.	Uncultivated.	Under Forest Department.	Under other Departments.	Under Deputy Commissioner.	Average yearly income, 1877-78 to 1881-82.
Whole District ..	55	70,897	13,918	56,514	..	..	465	8,844
Tahsil Karnal ..	5	3,766	726	3,040	..	..	..	..
,, Panipat ..	..	..	..	..	..	..	..	..
,, Kaithal ..	50	67,131	13,192	53,474	..	..	465	..

NOTE.—These figures are taken from Table No. IX of the Revenue Report of 1881-82.

Table No. XIX, showing LAND ACQUIRED by GOVERNMENT.

Purpose for which acquired.	Acres acquired.	Compensation paid, in rupees.	Reduction of revenue, in rupees.
Roads ..	1,089	8,960	762
Canals ..	4,515	1,32,102	3,151
State Railways ..	..	..	..
Guaranteed Railways ..	..	..	..
Miscellaneous ..	554	5,424	389
Total ..	6,158	1,46,486	4,302

NOTE.—These figures are taken from Table No. XI of the Revenue Report.

Table No. XX, showing ACRES UNDER CROPS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
YEARS.	Total.	Rice.	Wheat.	Jawar.	Bajra.	Makai.	Jau.	Gram.	Moth.	Poppy.	Tobacco.	Cotton.	Indigo.	Sugarcane.	Vegetables.
1873-74 ..	465,691	48,591	99,874	94,804	32,547	11,436	33,534	71,002	8,447	345	1,248	17,268	411	11,748	1,190
1874-75 ..	465,729	49,060	98,275	93,529	32,407	11,900	32,024	72,930	8,300	330	1,146	19,658	410	12,005	1,585
1875-76 ..	568,617	60,450	125,440	99,090	35,000	10,930	41,334	87,120	12,700	..	3,210	25,450	410	16,400	1,975
1876-77 ..	575,642	53,113	113,110	142,540	31,058	6,215	29,856	119,935	8,996	..	917	21,510	588	14,399	816
1877-78 ..	416,687	20,602	122,800	36,272	10,075	2,705	114,473	59,139	3,139	..	2,062	18,299	379	10,217	1,966
1878-79 ..	627,384	96,052	101,281	166,616	37,436	10,351	77,891	77,545	3,175	..	1,031	21,762	158	15,925	2,332
1879-80 ..	593,857	105,236	98,275	170,343	53,786	6,618	42,687	52,945	5,745	..	1,004	21,912	315	15,847	2,80[illegible]
1880-81 ..	662,8[illegible]2	114,978	112,089	180,680	60,419	10,621	44,486	66,703	6,986	..	1,406	17,842	791	14,704	4,067
1881-82 ..	654,[illegible]7	108,026	91,691	174,948	54,022	13,119	39,144	74,970	9,222	..	2,124	22,088	1,298	17,869	2,836
NAME OF TAHSIL.	TAHSIL AVERAGES FOR THE FIVE YEARS, FROM 1877-78 TO 1881-82.														
Karnal ..	203,264	56,778	32,631	53,535	858	5,011	22,353	13,478	572	..	724	2,616	6	2,980	494
Panipat ..	146,701	8,263	49,710	26,155	1,832	2,929	7,719	15,943	2,249	..	426	12,932	393	11,451	763
Kaithal ..	234,849	23,937	16,887	59,841	40,458	716	33,864	36,800	2,832	..	375	4,834	189	442	1,636
TOTAL ..	584,813	88,979	99,227	144,532	43,148	8,666	63,936	66,220	5,653	..	1,525	20,382	588	14,872	2,902

NOTE.—These figures are taken from Table No. XLIV of the Administration Report.

Table No. XXI, showing RENT RATES and AVERAGE YIELD.

1			2			3
Nature of crop.			Rent per acre of land suited for the various crops, as it stood in 1881-82.			Average produce per acre as estimated in 1881-82.
			Rs.	A.	P.	lbs.
Rice		Maximum	4	14	8	732
		Minimum	2	14	0	
Indigo		Maximum	8	10	8	159
		Minimum	5	6	8	
Cotton		Maximum	7	0	0	173
		Minimum	5	1	4	
Sugar		Maximum	11	5	4	1,188
		Minimum	8	5	2	
Opium		Maximum	..	..	.	.
		Minimum	..	..	..	
Tobacco		Maximum	11	5	4	510
		Minimum	8	0	0	
Wheat	Irrigated	Maximum	6	10	8	643
		Minimum	4	5	4	
	Unirrigated	Maximum	4	8	0	
		Minimum	3	2	8	
Inferior grains	Irrigated	Maximum	2	13	4	397
		Minimum	2	1	4	
	Unirrigated	Maximum	2	1	4	
		Minimum	1	10	8	
Oil seeds	Irrigated	Maximum	3	2	8	229
		Minimum	2	5	4	
	Unirrigated	Maximum	2	2	8	
		Minimum	1	9	4	
Fibres	Irrigated	Maximum	2	13	4	194
		Minimum	1	14	8	
	Unirrigated	Maximum	2	0	0	
		Minimum	1	0	8	
Gram		..	..	..	..	303
Barley		..	..	..	.	261
Bajra		..	.	..		219
Jawar		..	..	..	..	337
Vegetables			..	..	.	..
Tea		.	..	.	..	..

NOTE.—These figures are taken from Table No. XLVI of the Administration Report.

Table No. XXII, showing NUMBER of STOCK.

1	2	3	4	5	6	7
KIND OF STOCK.	WHOLE DISTRICT FOR THE YEARS			TAHSILS FOR THE YEAR 1878-79.		
	1868-69.	1873-74.	1878-79.	Karnal.	Panipat.	Kaithal.
Cows and bullocks	194,458	193,240	193,653	50,791	66,032	76,830
Horses	3,815	3,060	2,775	1,500	825	450
Ponies	1,100	1,108	903	300	498	195
Donkeys	11,701	11,456	15,801	7,000	4,126	4,675
Sheep and goats	70,072	65,242	61,862	12,000	17,347	32,515
Pigs	7,525	..	7,457	3,000	3,207	1,250
Camels	901	756	702	15	112	575
Carts	5,887	6,239	6,114	1,500	3,434	1,180
Ploughs	39,270	39,865	38,558	7,500	11,173	14,885
Boats	38	40	39	16	19	4

NOTE.—These figures are taken from Table No. XLV of the Administration Report.

Table No. XXIII, showing OCCUPATIONS of MALES.

1	2	3	4	5	1	2	3	4	5
Number.	Nature of occupations.	Males above 15 years of age.			Number.	Nature of occupations.	Males above 15 years of age.		
		Towns.	Villages.	Total.			Towns.	Villages.	Total.
1	Total population ..	26,357	188,149	214,506	17	Agricultural labourers ..	460	2,611	3,071
2	Occupation specified ..	25,351	187,106	212,457	18	Pastoral ..	224	2,363	2,587
3	Agricultural, whether simple or combined.	6,054	113,021	119,075	19	Cooks and other servants ..	1,179	901	2,080
					20	Water-carriers ..	499	3,401	3,900
4	Civil Administration ..	979	1,775	2,754	21	Sweepers and scavengers ..	642	7,431	8,073
5	Army ..	348	31	379	22	Workers in reed, cane, leaves, straw, &c.	606	295	901
6	Religion ..	514	2,776	3,290					
7	Barbers ..	394	2,671	3,065	23	Workers in leather ..	294	6,474	6,768
8	Other professions ..	406	950	1,356	24	Boot-makers ..	735	4,233	4,968
9	Money-lenders, general traders, pedlars, &c.	642	2,846	3,488	25	Workers in wool and pashm	259	324	583
					26	,, ,, silk ..	64	42	106
10	Dealers in grain and flour ..	1,229	6,277	7,506	27	,, ,, cotton ..	1,653	6,021	7,674
11	Corn-grinders, parchers, &c.	204	642	846	28	,, ,, wood ..	741	2,871	3,612
12	Confectioners, green-grocers, &c.	656	191	846	29	Potters ..	382	3,290	3,672
					30	Workers and dealers in gold and silver.	236	882	1,118
13	Carriers and boatmen ..	634	1,620	2,254					
14	Landowners ..	2,816	72,440	75,256	31	Workers in iron ..	204	1,743	1,947
15	Tenants	1,664	19,368	21,032	32	General labourers ..	1,963	6,725	8,688
16	Joint-cultivators ..	535	13,824	14,359	33	Beggars, faqirs, and the like	993	6,592	7,585

NOTE.—These figures are taken from Table No. XII A of the Census Report of 1881.

Table No. XXIV, showing MANUFACTURES.

1	2	3	4	5	6	7	8	9	10	11
	Silk.	Cotton.	Wool.	Other fabrics.	Paper	Wood.	Iron.	Brass and copper.	Buildings.	Dyeing and manufacturing of dyes.
Number of mills and large factories	..	..	..	..	1	..	..	..	..	..
Number of private looms or small works.	24	2,080	323	101	..	1,687	1,148	44	..	629
Number of workmen in large works. Male ..	..	..	..	..	87	..	..	..	..	..
Number of workmen in large works. Female ..	..	..	..	..	..	..	..	..	..	..
Number of workmen in small works or independent artisans.	24	4,629	953	201	..	2,470	2,421	154	997	1,106
Value of plant in large works ..	..	..	..	..	6,000	..	..	..	..	..
Estimated annual out-turn of all works in rupees.	9,600	4,99,932	1,14,360	13,668	5,568	3,03,810	2,22,732	38,654	99,700	1,30,506

	12	13	14	15	16	17	18	19
	Leather.	Pottery, common and glazed.	Oil-pressing and refining.	Pashmina and Shawls.	Carpets.	Gold, silver, and jewellery.	Other manufactures.	Total.
Number of mills and large factories	..	..	..	..	..	..	..	1
Number of private looms or small works.	374	1,890	785	..	11	599	1,766	11,455
Number of workmen in large works. Male ..	..	..	..	..	..	..	..	87
Number of workmen in large works. Female ..	..	..	..	..	..	..	..	..
Number of workmen in small works or independent artisans.	634	3,479	1,129	..	24	1,282	2,828	22,231
Value of plant in large works ..	..	..	..	..	..	..	..	6,000
Estimated annual out-turn of all works in rupees.	59,596	1,28,723	1,88,545	..	3,216	6,82,024	3,98,748	28,99,384

NOTE.—These figures are taken from the Report on Internal Trade and Manufactures for 1881-82.

Table No. XXVI, showing RETAIL PRICES.

1	2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
	Number of Seers and Chitanks per Rupee.																													
Year.	Wheat.		Barley.		Gram.		Indian corn.		Jawar.		Bajra.		Rice (fine).		Urd dal.		Potatoes.		Cotton (cleaned).		Sugar (refined).		Ghi (cow's).		Firewood.		Tobacco.		Salt (Lahori).	
	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
1861-62 ..	14	2	20	8	14	8	14	15	15	3	16	7	7	12	15	1	18	10	4	10	2	13	2	2	186	10	4	10	7	12
1862-63 ..	29	1	54	9	29	14	32	10	54	5	32	14	8	8	24	8	18	10	2	15	2	12	2	1	186	10	4	10	8	4
1863-64 ..	14	15	20	8	16	13	28	..	28	..	27	1	14	..	21	..	23	5	4	10	2	5	2	5	186	10	4	10	8	10
1864-65 ..	29	14	37	5	27	1	28	..	32	10	28	..	15	14	22	6	18	10	4	10	2	5	2	9	186	10	5	9	8	14
1865-66 ..	18	4	29	6	27	6	19	13	25	5	19	12	7	4	18	15	18	10	2	..	3	1	1	11	177	4	6	1	7	6
1866-67 ..	19	7	30	14	28	..	18	10	25	5	19	12	7	4	19	7	21	7	2	9	2	12	1	9	177	4	3	14	7	9
1867-68 ..	23	4	26	4	22	8	19	14	21	1	19	7	8	8	17	15	18	10	3	5	2	7	1	8	144	10	5	6	5	15
1868-69 ..	14	4	20	11	17	12	14	14	15	9	16	6	6	12	13	7	26	2	2	1	2	7	1	6	154	14	5	6	5	15
1869-70 ..	10	9	15	5	9	11	18	11	13	1	13	..	5	9	10	11	18	10	1	12	2	9	1	6	158	10	4	3	6	12
1870-71 ..	14	15	24	13	16	1	11	9	23	10	20	1	6	11	18	1	28	..	2	3	2	10	1	5	149	5	5	9	7	10
1871-72 ..	19	..	35	..	19	8	22	..	18	..	20	..	8	..	18	..	16	..	2	9	2	12	1	7	175	..	8	..	8	8
1872-73 ..	22	..	38	..	27	..	30	..	30	..	24	..	10	..	21	..	20	..	3	8	3	8	2	2½	150	..	8	..	8	..
1873-74 ..	19	..	31	..	30	..	30	..	30	..	24	..	10	..	21	..	20	..	3	..	3	4	1	12	175	..	8	..	8	12
1874-75 ..	22	8	36	..	35	8	35	..	27	..	26	..	10	..	24	..	20	..	3	8	3	8	1	15	160	..	8	..	8	8
1875-76 ..	22	..	32	..	34	8	34	..	34	..	34	..	12	..	17	..	20	..	3	..	3	4	1	14	160	..	8	..	8	..
1876-77 ..	25	..	37	..	37	..	34	..	35	..	26	..	10	..	21	..	20	..	3	6	3	8	1	15	160	..	8	..	8	..
1877-78 ..	14	..	18	..	16	8	16	..	15	..	10	..	8	..	10	..	13	5	2	8	3	..	1	14	160	..	8	..	8	8
1878-79 ..	13	..	23	..	17	..	18	..	18	..	17	..	8	..	11	..	13	..	3	..	2	8	1	8	160	..	8	..	9	8
1879-80 ..	15	..	23	4	19	..	25	..	23	..	19	..	11	..	15	..	13	..	3	..	2	8	1	8	160	..	8	..	9	8
1880-81 ..	17	8	29	..	22	..	27	..	27	8	21	..	12	..	19	8	16	..	2	12	2	8	1	8	160	..	8	..	10	8
1881-82 ..	20	..	34	..	26	8	30	..	31	..	25	..	12	..	16	..	20	..	3	6	2	8	1	10	160	..	8	..	10	..

NOTE.—The figures for the first ten years are taken from a statement published by Government (Punjab Government No. 209 S. of 19th August 1872), and represent the average prices for the 12 months of each year. The figures for the last ten years are taken from Table No. XLVII of the Administration Report, and represent prices as they stood on the 1st January of each year.

Table No. XXVII, showing PRICE of LABOUR.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	Wages of Labour per day.				Carts per day.		Camels per day		Donkeys per score per day.		Boats per day.	
	Skilled.		Unskilled.									
	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.
1868-69 ..	0 6 0	0 4 0	0 3 0	0 2 0	1 12 0		0 7 0	0 6 0	4 12 0		0 7 0	0 6 0
1873-74 ..	0 8 0	0 4 0	0 3 0	0 1 6	1 12 0		0 8 0	0 4 0	3 12 0	3 9 0	0 7 0	0 5 0
1878-79 ..	0 8 0	0 4 0	0 3 0	0 1 6	1 12 0	0 14 0	0 8 0	0 5 0	3 12 0	3 8 0	0 7 0	0 5 0
1879-80 ..	0 8 0	0 4 0	0 3 0	0 1 6	1 12 0	0 14 0	0 8 0	0 5 0	3 12 0	3 8 0	0 7 0	0 5 0
1880-81 ..	0 8 0	0 4 0	0 3 0	0 1 6	1 12 0	0 14 0	0 8 0	0 5 0	3 12 0	3 8 0	0 7 0	0 5 0
1881-82 ..	0 8 0	0 4 0	0 3 0	0 1 6	1 12 0	0 14 0	0 8 0	0 5 0	3 12 0	3 8 0	0 7 0	0 5 0

NOTE.—These figures are taken from Table No. XLVIII of the Administration Report.

Table No. XXVIII, showing REVENUE COLLECTED.

1	2	3	4	5	6	7	8	9
YEAR.	Fixed Land Revenue.	Fluctuating and Miscellaneous Land Revenue.	Tribute.	Local rates.	Excise.		Stamps.	Total Collections.
					Spirits.	Drugs.		
1868-69	6,53,799	2,307	..	..	6,508	8,552	38,814	7,09,980
1869-70	6,50,104	1,529	..	..	4,749	8,441	43,237	7,08,060
1870-71	6,65,232	3,531	..	..	5,314	8,502	40,814	7,23,393
1871-72	6,68,202	3,372	..	54,892	5,377	8,510	42,488	7,82,841
1872-73	6,67,936	2,552	..	54,813	5,403	8,863	42,808	7,82,375
1873-74	6,67,851	2,183	..	54,794	5,230	7,299	44,294	7,81,651
1874-75	6,67,629	3,219	..	54,783	4,149	9,834	38,438	7,78,052
1875-76	6,67,002	2,010	..	54,742	4,341	8,822	44,451	7,81,368
1876-77	6,77,200	2,219	..	55,342	4,254	9,052	41,939	7,90,006
1877-78	6,29,687	1,555	..	52,831	5,559	9,909	40,228	7,45,769
1878-79	5,97,247	27,808	..	68,516	4,500	9,032	53,258	7,60,361
1879-80	6,42,911	2,705	..	65,279	4,024	7,942	57,375	7,80,236
1880-81	5,87,881	47,908	..	61,822	4,517	8,774	58,891	7,64,793
1881-82	5,93,779	16,559	..	63,674	6,614	8,550	60,224	7,49,400

NOTE.—These figures are taken from Table No. XLIV of the Revenue Report. The following revenue is excluded:—"Canal, Forests, Customs and Salt, Assessed Taxes, Fees, Cesses."

Table No. XXIX, showing REVENUE DERIVED from LAND.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	Fixed land revenue (demand).	Fluctuating and miscellaneous land revenue (collections).	Fluctuating Revenue.					Miscellaneous Revenue.				
			Revenue of alluvial lands.	Revenue of waste lands brought under assessment.	Water advantage revenue.	Fluctuating assessment of river lands.	Total fluctuating land revenue.	Grazing dues. By enumeration of cattle.	Grazing dues. By grazing leases.	Sale of wood from rakhs and forests.	Sajji.	Total miscellaneous land revenue.
District Figures.												
Total of 5 years— 1868-69 to 1872-73 ..	33,40,380	13,291	2,178	..	..	..	3,862	..	2,029	468	..	9,429
Total of 5 years— 1873-74 to 1877-78 ..	33,62,012	11,186	487	..	..	..	2,630	..	2,304	27	..	8,556
1878-79 ..	6,41,081	27,621	15	..	..	..	26,811	..	351	..	..	810
1879-80 ..	5,92,725	2,563	9	..	..	..	1,192	..	371	..	..	1,371
1880-81 ..	5,80,265	47,776	279	..	..	..	775	..	112	..	..	47,001
1881-82 ..	5,80,562	13,850	192	..	..	..	346	..	105	..	..	13,504
Tahsil Totals for 5 years— 1877-78 to 1881-82.												
Tahsil Karnal ..	8,50,440	39,474	497	..	..	..	827	..	..	..	..	38,647
" Panipat ..	14,94,920	35,575	21	..	..	..	1,321	..	..	..	..	34,254
" Kaithal ..	7,27,867	2,230	..	..	..	..	311	..	1,214	..	..	1,919

NOTE—These figures are taken from Tables Nos. I and III of the Revenue Report.

Table No. XXX, showing ASSIGNED LAND REVENUE.

1	2	3	4	5	6	7	8	9	10	11
TAHSIL.	Total Area and Revenue assigned.								Period of Assignment.	
	Whole Villages.		Fractional parts of Villages.		Plots.		Total.		In perpetuity.	
	Area.	Revenue	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.
Karnal ..	272,698	1,30,297	13,888	8,666	3,059	4,249	289,645	1,43,212	279,147	1,35,798
Panipat ..	15,311	29,679	..	..	303	671	15,614	30,350	12,929	27,796
Kaithal ..	77,677	33,099	2,130	848	2,764	1,747	82,571	35,689	73,322	32,446
Total District ..	365,686	1,93,075	16,018	9,509	6,126	6,667	387,830	2,09,251	365,398	1,96,040

	12	13	14	15	16	17	18	19	20	21	22	23	24	25
TAHSIL.	Period of Assignment.—*Concluded.*								Number of Assignees.					
	For one life.		For more lives than one.		During maintenance of Establishment.		Pending orders of Government							
	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	Area.	Revenue.	In perpetuity.	For one life.	For more lives than one.	During maintenance.	Pending orders.	Total.
Karnal ..	9,357	5,608	1,008	1,626	120	166	13	19	1,208	201	1,115	84	15	2,623
Panipat	20	152	..	..	2,665	2,402	..	..	2,997	4	..	26	..	3,027
Kaithal .	653	517	2,001	455	6,595	2,271	..	..	340	101	51	30	..	522
Total District	10,030	6,272	3,009	2,081	9,380	4,839	13	19	4,545	306	1,166	140	15	6,172

NOTE.—These figures are taken from Table No. XII of the Revenue Report for 1881-82.

Table No. XXXI, showing BALANCES, REMISSIONS and TAKAVI.

YEAR.	Balances of land revenue in rupees.		Reductions of fixed demand on account of bad seasons, deterioration, &c., in rupees.	Takavi advances in rupees.
	Fixed revenue.	Fluctuating and miscellaneous revenue.		
1868-69 .. .	13,870	..	..	5,505
1869-70 .. .	17,751	..	300	55,611
1870-71	1,977	..	..	1,[illegible]
1871-72 .. .	437	..	..	1,785
1872-73 ..	1,072	..	..	450
1873-74	544	..	1,005	946
1874-75 .. .	337	..	..	475
1875-76 .. .	1,295	8	..	900
1876-77	1,578	72	..	130
1877-78 . .	48,907	179	..	1,703
1878-79 .. .	62,356	12,706	20	45,264
1879-80 .. .	12,096	95	..	21
1880-81 .. .	10,218	2,560	..	402
1881-82	499	22	..	300

NOTE.—These figures are taken from Tables Nos. I, II, III, and XVI of the Revenue Report.

Table No. XXXII, showing SALES and MORTGAGES of LAND.

1	2	3	4	5	6	7	8	9	10
YEAR.	SALES OF LAND.						MORTGAGES OF LAND.		
	Agriculturists.			*Non-Agriculturists.*			*Agriculturists.*		
	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Purchase money.	No. of cases.	Area of land in acres.	Mortgage money.
DISTRICT FIGURES.									
Total of 6 years—1868-69 to 1873-74 ..	582	16,106	2,38,506	..	..	..	467	6,559	1,22,825
Total of 4 years—1874-75 to 1877-78 ..	85	2,051	30,384	85	1,795	28,731	78	966	12,223
1878-79 ..	39	827	13,426	37	491	10,520	28	873	4,772
1879-80 ..	60	907	11,492	20	351	6,292	48	656	12,411
1880-81 ..	81	838	24,187	50	1,134	13,593	67	608	16,124
1881-82 ..	159	1,273	49,643	79	649	27,328	93	485	24,493
TAHSIL TOTALS FOR 5 YEARS—1877-78 TO 1881-82.									
Karnal ..	192	2,919	56,474	125	1,961	42,259	64	758	13,822
Panipat ..	106	412	33,146	38	224	13,825	73	320	23,277
Kaithal ..	70	1,163	18,149	46	1,138	11,012	137	1,354	25,048

11	12	13	14	15	16	17	18	19
YEAR.	MORTGAGES OF LAND.—*Concluded.*			REDEMPTIONS OF MORTGAGED LAND.				
	Non-Agriculturists.			*Agriculturists.*			*Non-Agriculturists.*	
	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.	Mortgage money.	No. of cases.	Area of land in acres.	Mortgage money.
DISTRICT FIGURES.									
Total of 6 years—1868-69 to 1873-74 ..	..	..	..	..	..	..	..	..	..
Total of 4 years—1874-75 to 1877-78 ..	74	1,119	18,072	140	925	6,658	3	37	352
1878-79 ..	39	564	9,061	20	204	1,618	2	694	6,022
1879-80 ..	42	1,564	23,103	19	92	1,192	1	40	990
1880-81 ..	85	1,289	24,774	23	358	5,432	5	31	395
1881-82 ..	135	1,286	37,887	97	653	12,129	48	360	9,079
TAHSIL TOTALS FOR 5 YEARS—1877-78 TO 1881-82.									
Karnal ..	84	1,112	24,152	55	699	11,849	5	216	1,875
Panipat ..	152	576	38,305	41	128	7,423	45	152	7,429
Kaithal ..	84	3,240	36,913	83	617	6,319	6	721	7,182

NOTE.—These figures are taken from Tables Nos. XXXV and XXXV B of the Revenue Report. No details for transfers by agriculturists and others, and no figures for redemption, are available before 1874-75. The figures for earlier years include *all* sales and mortgages.

Table No. XXXIII, showing SALE of STAMPS and REGISTRATION of DEEDS.

1	2	3	4	5	6	7	8	9	10	11	12	13
YEAR.	INCOME FROM SALE OF STAMPS.				OPERATIONS OF THE REGISTRATION DEPARTMENT.							
	Receipts in rupees.		*Net income in rupees.*		*No. of deeds registered.*				*Value of property affected, in rupees.*			
	Judicial.	Non-judicial.	Judicial.	Non-judicial.	Touching immovable property.	Touching movable property.	Money obligations.	Total of all kinds.	Immovable property.	Movable property.	Money obligations.	Total value of all kinds.
1877-78 ..	31,306	10,931	30,842	10,605	2,133	250	1,114	3,497	4,53,298	46,567	2,18,051	7,17,916
1878-79 ..	39,935	13,323	36,001	12,841	2,879	255	637	3,771	6,54,491	37,439	2,21,576	9,13,506
1879-80 ..	45,334	12,041	41,314	11,524	1,793	79	335	2,350	5,09,298	15,999	1,45,431	6,88,903
1880-81 ..	41,217	12,674	36,866	12,231	1,781	139	296	2,266	5,90,423	20,013	84,196	7,00,944
1881-82 ..	47,676	12,548	43,382	12,080	1,433	123	316	1,939	4,49,709	22,326	94,801	6,26,949

NOTE.—These figures are taken from Appendix A of the Stamp and Tables Nos. II and III of the Registration Report.

Table No. XXXIIIA, showing REGISTRATIONS.

1	2	3	4	5	6	7
	Number of Deeds registered.					
	1880-81.			1881-82.		
	Compulsory.	Optional.	Total.	Compulsory.	Optional.	Total.
Registrar Karnal	11	1	12	2	2	4
Sub-Registrar Karnal	440	382	822	370	356	726
,, Kunjpura	27	59	86	29	47	76
,, Panipat	399	489	888	332	353	685
,, Kaithal	218	228	446	204	227	431
,, Arnauli	3	9	12	8	9	17
Total of district ..	1,098	1,168	2,266	945	994	1,939

NOTE.—These figures are taken from Table No. I of the Registration Report.

Table No. XXXIV, showing LICENSE TAX COLLECTIONS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR.	NUMBER OF LICENSES GRANTED IN EACH CLASS AND GRADE.											Total number of licenses.	Total amount of fees.	Number of villages in which licenses granted.
	Class I.				Class II.				Class III.					
	1 Rs. 500	2 Rs. 200	3 Rs. 150	4 Rs. 100	1 Rs. 75	2 Rs. 50	3 Rs. 25	4 Rs. 10	1 Rs. 5	2 Rs. 2	3 Re. 1			
1878-79 ..	..	..	8	4	3	30	160	600	1,200	2,000	4,962	8,962	27,537	615
1879-80 ..	..	..	..	1	1	24	143	586	1,041	2,046	3,939	7,781	24,046	540
1880-81 ..	..	..	..	1	1	16	137	619	..	..	..	774	10,590	204
1881-82 ..	..	..	..	..	2	17	140	726	..	..	..	885	11,760	220
Tahsil details for 1881-82—														
Tahsil Karnal ..	..	..	..	..	..	6	50	289	..	..	..	345	4,440	99
,, Panipat ..	..	..	..	..	..	2	28	234	..	..	..	264	3,140	59
,, Kaithal ..	..	..	..	..	2	9	62	203	..	..	..	276	4,180	62

Table No. XXXV, showing EXCISE STATISTICS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR.	FERMENTED LIQUORS.					INTOXICATING DRUGS.						EXCISE REVENUE FROM		
	Number of central distilleries.	No. of retail shops.		Consumption in gallons.		No. of retail licenses.		Consumption in maunds.				Fermented liquors.	Drugs.	Total.
		Country spirits.	European liquors.	Rum.	Country spirits.	Opium.	Other drugs.	Opium.	Charas.	Bhang.	Other drugs.			
1877-78 ..	1	8	5	220	1,491	39	40	52	15	43¾	42	5,454	9,909	15,363
1878-79 ..	1	8	3	145	1,112	39	40	39½	18	25	½	4,451	9,022	13,473
1879-80 ..	1	6	4	57	1,175	39	40	42	..	47	11	3,975	7,719	11,694
1880-81 ..	1	6	4	132	1,203	39	40	36	23½	105½	7	4,469	8,774	13,243
1881-82 ..	1	6	4	255	1,458	39	40	32½	10¼	70	4	6,614	8,550	15,164
TOTAL ..	5	34	20	809	6,439	195	200	202	66¾	291½	64½	24,963	43,974	68,937
Average ..	1	7	4	162	1,288	39	40	40½	13¼	58½	13	4,993	8,795	13,787

NOTE.—These figures are taken from Tables Nos. I, II, VIII, IX, X, of the Excise Report.

Table No. XXXVI, showing DISTRICT FUNDS.

1	2	3	4	5	6	7	8	9	10	11
	Annual income in rupees.			*Annual expenditure in rupees.*						
YEAR.	Provincial rates.	Miscellaneous.	Total income.	Establishment.	District post, and arboriculture.	Education.	Medical.	Miscellaneous.	Public Works.	Total expenditure.
1874-75 ..	..	..	61,391	1,103	2,998	6,058	2,495	..	19,896	32,550
1875-76 ..	..	..	80,427	1,471	174	7,124	4,238	283	45,366	58,656
1876-77 ..	..	..	82,603	1,839	192	9,536	5,410	240	57,169	74,386
1877-78 ..	..	..	76,937	2,345	632	10,577	4,962	240	55,279	74,035
1878-79 ..	..	..	63,108	2,555	944	10,478	5,439	50	34,445	53,911
1879-80 ..	78,260	944	79,204	2,756	871	10,993	5,220	60	25,172	45,072
1880-81 ..	71,173	2,250	73,423	2,838	881	9,634	5,196	60	31,403	50,012
1881-82 ..	75,117	958	76,075	2,807	911	9,570	5,095	287	29,058	47,728

NOTE.—These figures are taken from Appendices A and B to the Annual Review of District Fund operations.

Table No. XXXVII, showing GOVERNMENT and AIDED SCHOOLS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	HIGH SCHOOLS.						MIDDLE SCHOOLS.						PRIMARY SCHOOLS.							
	ENGLISH.				VERNACULAR.		ENGLISH.				VERNACULAR		ENGLISH.				VERNACULAR.			
YEAR.	*Government.*		*Aided.*		*Government.*		*Government.*		*Aided.*		*Government.*		*Government.*		*Aided.*		*Government.*		*Aided.*	
	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.	Schools.	Scholars.
FIGURES FOR BOYS.																				
1877-78 ..	..	..	..	..	..	..	1	108	..	..	4	679	..	..	..	..	38	1,659	4	226
1878-79 ..	..	..	..	..	..	..	1	126	..	..	4	682	..	..	..	..	36	1,554	4	216
1879-80 ..	..	..	..	..	..	..	2	85	..	..	3	56	5	443	..	..	32	1,410	..	..
1880-81 ..	..	..	..	..	..	..	2	63	..	..	3	59	5	415	..	..	32	1,385	..	..
1881-82 ..	..	..	..	..	..	..	2	40	..	..	3	46	5	136	..	..	31	1,390	..	..
FIGURES FOR GIRLS.																				
1877-78 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	78
1878-79 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	73
1879-80 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	37
1880-81 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	39
1881-82 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	56

N. B.—Since 1879-80, in the case of both Government and Aided Schools, those scholars only who have completed the Middle School course are shown in the returns as attending High Schools, and those only who have completed the Primary School course are shown as attending Middle Schools. Previous to that year, boys attending the Upper Primary Department were included in the returns of Middle Schools in the case of Institutions under the immediate control of the Education Department, whilst in Institutions under District Officers, boys attending both the Upper and Lower Primary Departments were included in Middle Schools. In the case of Aided Institutions, a High School included the Middle and Primary Departments attached to it; and a Middle School, the Primary Department. Before 1879-80, Branches of Government Schools, if supported on the grant-in-aid system, were classed as Aided Schools; in the returns for 1879-80 and subsequent years they have been shown as Government Schools. Branches of English Schools, whether Government or Aided, that were formerly included amongst Vernacular Schools, are now returned as English Schools. Hence the returns before 1879-80 do not afford the means of making a satisfactory comparison with the statistics of subsequent years.

Indigenous Schools and Jail Schools are not included in these returns.

Table No. XXXVIII, showing the working of DISPENSARIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Name of Dispensary.	Class of Dispensary.	Number of patients treated.														
		Men.					Women.					Children.				
		1877.	1878.	1879.	1880.	1881	1877.	1878.	1879.	1880.	1881	1877.	1878.	1879.	1880.	1881.
Karnal ..	C. H	4,824	5,967	6,938	6,452	7,117	1,273	1,119	1,807	1,667	1,754	860	669	1,224	925	1,104
Kaithal ..	1st	4,505	5,544	3,975	4,628	4,499	810	1,404	1,248	1,171	1,215	750	1,390	1,088	837	1,066
Panipat ..	2nd	4,900	4,944	6,245	4,679	5,022	1,637	1,506	2,571	1,921	1,838	857	1,002	1,256	831	864
Kunjpura .	2nd	2,127	2,436	2,666	2,291	2,748	937	1,125	1,413	1,099	1,435	608	698	815	695	943
Assandh ..	2nd	1,890	2,458	2,304	2,290	2,177	748	755	935	1,005	887	617	680	674	661	671
Budhlada ..	2nd	668	3,137	3,126	2,375	2,455	256	1,032	1,101	817	798	115	780	979	716	787
Total ..	..	18,914	24,486	25,249	22,715	24,018	5,661	6,941	9,075	7,680	7,922	3,807	5,219	6,036	4,665	5,385

		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Name of Dispensary.	Class of Dispensary.	Total Patients.					In-door Patients.					Expenditure in Rupees.				
		1877.	1878.	1879.	1880.	1881	1877.	1878.	1879.	1880.	1881	1877.	1878.	1879.	1880.	1881.
Karnal ..	C. H	6,957	7,755	9,964	9,044	9,975	454	821	444	445	548	2,125	2,603	8,877	2,932	2,077
Kaithal ..	1st.	6,065	8,338	6,311	6,636	6,780	332	355	272	365	448	1,458	1,153	1,354	1,233	7,625
Panipat ..	2nd	7,394	7,452	10,072	7,431	7,719	412	409	364	545	502	1,666	1,328	1,245	1,251	1,261
Kunjpura ..	2nd	3,672	4,259	4,894	4,085	5,120	128	152	181	173	202	1,276	1,255	1,081	1,009	895
Assandh ..	2nd	3,255	3,893	3,913	3,956	3,735	178	117	153	127	137	1,042	1,104	825	752	854
Budhlada .	2nd	1,039	4,949	5,206	3,908	3,990	13	67	84	89	88	4,058	771	878	804	823
Total ..	..	28,382	36,646	40,360	35,060	37,325	1,512	1,921	1,498	1,744	1,925	11,625	8,214	14,260	7,981	13,535

NOTE.—These figures are taken from Tables Nos. II, IV, and V of the Dispensary Report.

Table No. XXXIX, showing CIVIL and REVENUE LITIGATION.

1	2	3	4	5	6	7	8	9
YEAR.	Number of Civil Suits concerning				Value in rupees of Suits concerning *			Number of Revenue cases.
	Money or movable property.	Rent and tenancy rights.	Land and revenue, and other matters.	Total.	* Land.	* Other matters.	* Total.	
1878 ..	3,046	278	367	3,691	15,901	2,50,874	2,66,775	5,432
1879	3,758	459	368	4,585	13,785	3,18,322	3,32,107	10,826
1880 ..	4,088	314	320	4,672	4,28,909	3,02,177	7,31,086	10,823
1881	3,552	180	408	4,140	18,473	4,92,685	5,11,158	6,498
1882 ..	2,897	280	472	3,649	18,910	2,50,624	2,69,534	5,059

NOTE.—These figures are taken from Tables Nos. VI and VII of the Civil Reports for 1878 to 1880, and Nos. II and III of the Reports on Civil Justice for 1881 and 1882

* Suits heard in Settlement courts are excluded from these columns, no details of the value of the property being available.

Table No. XL, showing CRIMINAL TRIALS.

	1	2	3	4	5	6
	DETAILS.	1878.	1879.	1880.	1881.	1882.
Persons tried.	Brought to trial	2,624	2,003	2,051	2,439	2,690
	Discharged	499	575	510	743	939
	Acquitted	395	213	194	156	181
	Convicted	1,714	1,204	1,293	1,546	1,507
	Committed or referred	6	4	29	40	37
Cases disposed of.	Summons cases (regular)	..	..	..	936	920
	,, (summary)	..	..	..	3	5
	Warrant cases (regular)	..	..	..	442	486
	,, (summary)	..	..	..	2	..
	Total cases disposed of	1,450	1,193	1,199	1,383	1,411
Number of persons sentenced to	Death	1	..	1	2	4
	Transportation for life	2	5	3	3	4
	,, for a term	..	..	..	..	..
	Penal servitude	..	..	..	..	..
	Fine under Rs. 10	842	529	611	1,034	848
	,, 10 to 50 rupees	253	166	160	118	152
	,, 50 to 100 ,,	11	11	8	14	3
	,, 100 to 500 ,,	12	4	3	..	2
	,, 500 to 1,000 ,,	1	..	..	..	..
	Over 1,000 rupees	1	..	..	..	..
	Imprisonment under 6 months	282	166	178	161	177
	,, 6 months to 2 years	249	160	137	93	116
	,, over 2 years	23	16	22	20	7
	Whipping	205	112	92	93	31
	Find sureties of the peace	..	..	..	..	8
	Recognisance to keep the peace	75	92	127	61	180
	Give sureties for good behaviour	79	207	192	158	244

NOTE.—These figures are taken from Statements Nos. III and IV of the Criminal Reports for 1878 to 1880, and Nos. IV and V of the Criminal Reports for 1881 and 1882.

Table No. XLI, showing POLICE INQUIRIES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nature of offence.	*Number of cases inquired into.*					*Number of persons arrested or summoned.*					*Number of persons convicted.*				
	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881	1877	1878	1879	1880	1881
Rioting or unlawful assembly	9	9	3	3	8	104	90	23	28	66	82	80	11	19	65
Murder and attempts to murder	4	7	2	6	6	8	17	7	23	15	3	6	6	4	3
Total serious offences against the person	49	54	38	34	35	75	91	56	70	62	51	50	32	37	32
Abduction of married women	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total serious offences against property	395	256	157	182	115	218	235	101	106	66	136	157	67	58	32
Total minor offences against the person	35	11	8	27	24	51	11	13	46	52	47	9	9	24	30
Cattle theft	163	181	84	77	77	146	232	103	82	73	89	166	70	44	32
Total minor offences against property	480	768	400	366	352	474	718	424	355	334	322	517	280	243	289
Total cognizable offences	974	1,107	610	617	536	932	1,155	623	610	582	646	817	404	384	350
Rioting, unlawful assembly, affray	3	1	1	3	1	13	11	2	14	6	7	11	2	7	4
Offences relating to marriage	2	..	3	1	2	1	..	6	2	3	..	..	1	2	1
Total non-cognizable offences	87	46	53	62	99	126	93	86	214	143	79	65	51	122	110
GRAND TOTAL of offences	1,061	1,153	663	679	635	1,058	1,248	709	824	725	725	882	455	506	460

NOTE.—These figures are taken from Statement A of the Police Report.

Table No. XLII, showing CONVICTS in GAOL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	No. in gaol at beginning of the year.		*No imprisoned during the year.*		*Religion of convicts.*			*Previous occupation of male convicts.*					
YEAR	Males.	Females.	Males.	Females.	Musalman.	Hindu.	Buddhist and Jain.	Official.	Professional.	Service.	Agricultural.	Commercial.	Industrial.
1877 78	204	9	514	35	252	510		15	.	2	459	.	..
1878-79	236	8	703	54	361	670		7	..	31	628	..	.
1879-80 ..	285	18	449	14	66	149	..	3			127	10	..
1880 81 .	209	6	378	27	82	155	..	3	4	102	119	.	..
1881-82	227	10	335	36	59	131	..	2	..	71	108		.

	15	16	17	18	19	20	21	22	23	24	25	26
	Length of sentence of convicts.							*Previously convicted.*			*Pecuniary results.*	
YEAR	Under 6 months.	6 months to 1 year.	1 year to 2 years.	2 years to 5 years.	5 years to 10 years.	Over 10 years and transportation.	Death.	Once.	Twice.	More than twice.	Cost of maintenance.	Profits of convict labour.
1877 78	181	268	342	150	32	16	1	41	10	13	12,911	2,361
1878-79	294	236	426	25	15	5		42	16	13	15,820	1,016
1879-80	10	26	164	14	1		..	20	4	7	13,649	4,090
1880 81	66	55	85	25	5	1		29	4	6	12,197	3,253
1881-82	39	41	71	35	2	1	1	19	5	3	11,664	2,759

NOTE —These figures are taken from Tables Nos. XXVIII, XXIX, XXX, XXXI, and XXXVII of the Administration Report

Table No. XLIII, showing the POPULATION of TOWNS.

1	2	3	4	5	6	7	8	9	10
Tahsil.	Town.	Total population.	Hindus.	Sikhs.	Jains.	Musalmans.	Other religions.	No. of occupied houses.	Persons per 100 occupied houses.
Karnal ..	Karnal ..	23,133	15,215	110	213	7,550	45	1,679	629
	Kunjpura ..	4,725	2,174	..	1	2,550	..	879	539
Panipat	Panipat ..	25,022	7,334	1	768	16,017	2	2,952	848
Kaithal ..	Kaithal ..	14,754	8,597	171	134	5,852	.	2,302	641
	Sewan .	5,717	3,252	11	..	2,454	..	287	1,992
	Pundri ..	4,977	3,343	3	1	1,630	.	342	1,458

NOTE.—These figures are taken from Table No XX of the Census Report of 1881

Table No. XLIV, showing BIRTHS and DEATHS for TOWNS.

1	2	3	4	5	6	7	8	9	10	11	12	13
TOWN.	Sex.	Total population by the Census of	Total births registered during the year.					Total deaths registered during the year.				
		1875.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Karnal	Males	12,695	430	464	334	312	447	525	825	1,085	608	560
	Females	11,320	414	394	279	242	371	462	779	1,020	475	510
Kaithal	Males	8,048	282	200	104	130	185	146	460	263	182	182
	Females	7,751	252	148	74	119	151	142	403	288	165	165
Panipat	Males	12,469	575	500	393	411	581	405	486	588	403	504
	Females	12,031	532	445	319	421	522	390	430	558	345	447

NOTE.—These figures are taken from Table No. LVII, of the Administration Report.

Table No. XLV, showing MUNICIPAL INCOME.

1	2	3	4	5	6
NAME OF MUNICIPALITY.	Karnal.	Panipat.	Kaithal.	Pundri.	Kunjpura.
Class of Municipality ..	II.	III.	III.	III.	III.
1870-71	16,270	12,421	7,854	1,608	971
1871-72	13,527	8,882	8,433	1,116	937
1872-73	14,245	10,013	5,298	1,184	1,177
1873-74	11,686	9,925	8,603	1,403	1,125
1874-75	15,765	11,468	6,533	1,200	1,437
1875-76	15,324	9,352	7,560	1,426	1,500
1876-77	16,502	10,810	8,155	1,124	1,636
1877-78	16,460	10,027	8,486	1,360	1,643
1878-79	15,694	14,344	8,809	1,285	1,516
1879-80	18,078	19,209	11,406	2,148	1,701
1880-81	18,912	21,370	13,663	2,013	1,720
1881-82	19,081	20,895	14,179	2,313	1,903

Table No. XLVI, showing DISTANCES.

a Tahsils.
b Police Stations.
c Ferries.

	Karnal.	Gharaunda.	Panipat.	Sambhalka.	Nisang.	Pundri.	Kaithal.	Siwan.	Chika.	Arnauli.	Budlada.	Sidhowal.	Deoband.	Rajaund.	Asandh.	Salwan.	Rer Bridge.	Butana.	Kunjpura.	Indri.	Alupur.	Gulah.	Mirgahan.	Sanauli.	Chaugaon.	Kalsaura.	Dabkauli.	Begi.	Khojgipur.
Karnal, a																													
Gharaunda, b	10																												
Panipat, a	20	10																											
Sambhalka, b	30	20	10																										
Nisang, b	14	24	34	44																									
Pundri, b	28	38	48	58	14																								
Kaithal, a	38	48	48	58	24	10																							
Siwan	44	54	64	74	30	16	6																						
Chika	55	65	75	85	41	27	17	11																					
Arnauli	66	76	86	96	52	38	28	28	11																				
Budlada, b	100	110	120	130	86	72	62	56	45	55																			
Sidhowal	91	91	101	111	67	53	43	37	26	15	55																		
Deoband	41	50	40	50	28	14	8	14	25	36	70	51																	
Rajaund, b	34	33	33	43	38	14	15	21	32	43	77	58	7																
Asandh, b	26	26	25	35	30	20	23	29	40	51	85	66	15	8															
Salwan	21	19	18	28	23	29	30	36	47	58	92	73	22	15	7														
Rer Bridge	18	10	9	19	16	30	39	45	56	67	101	82	31	24	16	9													
Butana, b	13	23	33	43	15	29	39	45	56	67	113	82	47	43	47	40	31												
Kunjpura	7	17	27	37	21	35	45	51	62	73	107	88	48	41	33	38	25	28											
Indri, b	14	24	34	44	23	37	47	53	64	75	114	90	51	51	53	46	39	8	11										
Alupur, b	34	24	14	17	39	43	52	58	69	80	134	95	44	37	29	22	13	44	41	48									
Gulah, b	55	65	75	85	41	27	17	11	3	14	45	29	35	42	50	57	46	9	62	73	69								
Mirgahan, c	5	10	20	30	19	33	43	49	60	71	105	86	46	39	31	26	21	18	6	17	34	60							
Sanauli, c	29	19	9	19	43	57	57	73	84	95	129	110	49	42	34	27	18	42	27	38	23	69	18						
Chaugaon, c	24	34	44	54	33	43	53	59	70	81	124	96	57	57	50	45	42	18	18	10	58	70	24	42					
Kalsaura, c	20	10	20	30	34	43	58	64	75	86	120	101	61	53	46	41	38	15	12	7	54	75	19	37	5				
Dabkauli, c	11	21	31	41	25	39	49	55	66	77	111	92	52	44	37	32	29	24	6	9	45	66	14	32	10	5			
Begi, c	10	20	30	40	24	38	48	54	65	76	110	91	51	43	36	31	28	21	4	13	44	65	10	28	14	9	4		
Khojgipur, c	11	6	16	26	25	39	19	55	66	77	111	92	52	45	37	32	21	24	15	56	30	66	7	11	31	26	21	17	